EXHIBIT E – Robert Landis Deposition Transcript and Exhibits

EXHIBIT P

IN THE UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

IN RE: TOYOTA MOTOR CORP. UNINTENDED ACCELERATION, MARKETING, SALES PRACTICES, AND PRODUCTS LIABILITY LITIGATION	:	CASE NO. 8:10ML2151 JVS (FMOx)

- - -

August 30, 2010

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Videotape deposition of ROBERT LANDIS, held in the offices of Bowman and Brooke, Suite 700, 879 West 190th Street, Gardena, California 90248, commencing at 9:04 a.m., on the above date, before Linda L. Golkow, a Federally-Approved Registered Diplomat Reporter, Certified Shorthand Reporter and Certified Realtime Reporter.

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I N D E X

E X H I B I T S

Landis-9	Accelerator pedal with Hall effect sensors	123
Landis-10	2002 to 2003, linkless style throttle	126
Landis-11	2004 to current, linkless style throttle	127
Landis-12	Linkless pedal with resistive sensor marked Aisin	138
Landis-13	Electronic control module, manufactured by Denso	159
Landis-14	LS 400 electronic control module, link style	163
Landis-15	Marked under separate confidential cover	
Landis-16	E-mail from Koji Sakakibara to Yoshioka, et al., with attachment, 9-1-09, TOY-MDLID00041130T-0001 - TOY-MDLID00041130T-0003	199

Landis-17	E-mail from George Marino to Gary E. Smith, 9-23-09, TOY-MDLID00075713	199
Landis-18	Marked under separate confidential cover	
Landis-19	Electronic Throttle Control System (Linkless Single-valve Type), 13 pages	257
Landis-20	Toyota ETCS how it works - Google Search, 21 pages	260
Landis-21	EWR 2003 3rd quarter di-200331641.txt, EWR Data - Death & Injury Records, 49 pages	327
Landis-22	EWR 2000 1st quarter pd.201011641.txt EWR Data - Property Damage Reports, 34 pages	327
Landis-23	Toyota Technical Service Bulletin, August 30, 2002, 3 pages	346

Landis-24	Toyota Technical Service Bulletin, May 16, 2003, 3 pages	358
Landis-25	Toyota Technical Service Bulletin, September 20, 2007, 3 pages	363
Landis-26	Full Case Detail - PDF, TOY-MDLID00031374 - TOY-MDLID00031385	434
Landis-27	Field Technical Report, Toyota Motor Czech, TOY-MDLID00087951 - TOY-MDLID00087954	439
Landis-28	Field Technical Report, Toyota/Lexus, TOY-MDLID00075534 - TOY-MDLID00075535	443
Landis-29	Field Technical Report, Toyota/Lexus, TOY-MDLID00065474 - TOY-MDLID00065476	449
Landis-30	Field Technical Report, Toyota/Lexus, TOY-MDLID00065779 - TOY-MDLID00065781	451

Landis-31	Field Technical Report, Toyota/Lexus, TOY-MDLID00009099 - TOY-MDLID00009101	455	
Landis-32	Field Technical Report, Toyota/Lexus, TOY-MDLID00056283 - TOY-MDLID00056284	458	

- - -

(Whereupon, Deposition Exhibit Landis-1, Draft, U.S. Vehicles with ETCS-i, was marked for identification.)

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(Whereupon, Deposition Exhibit Landis-2, Basic Schematic of Electronic Throttle Control System, was marked for identification.)

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THE VIDEOTAPE TECHNICIAN: We are now on the record. My name is Corey Smith. I'm a videographer for Golkow Technologies.

Today's date is August 30, 2010, and the time is now 9:04 a.m.

This video deposition is being held in Gardena, California In Re: Toyota Motor Corporation Unintended Acceleration Marketing, Sales Practices, and Products

Liability Litigation.

The deponent is Robert Landis, and counsel will be noted on the stenographic record.

The court reporter is Linda Golkow, and she will now swear in the witness.

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ROBERT LANDIS, after having been duly sworn, was examined and testified as follows:

- - -

EXAMINATION

- - -

BY MR. ROBINSON:

Q. Mr. Landis, are you an employee of Toyota?

A. I'm an employee of Toyota Motor Sales, USA, Inc.

Q. What is your address or your place of business?

A. 19001 Southwestern Avenue, Torrance, California 90501.

Q. Have you had your deposition taken before?

A. Yes, I have.

Q. Approximately how many times?

A. Somewhere between 15 and 20 times.

Q. Do you understand that even though we are not in court, but, rather, in your attorney's office, that you have just taken the same oath that you would take as if you were testifying before a judge and jury?

A. Yes, I understand that.

Q. And you understand that I'm going to ask you questions, and you are to give answers, right?

A. Yes, that's correct.

Q. Now, if you do not understand my question, will you tell me that you don't understand it?

A. Yes, I will.

Q. If you answer my question, is it fair for me to assume that you understood my question?

A. Yes.

Q. Now, how long have you

worked at Toyota?

A. Since 1998.

Q. Is it true that you work in the legal department at Toyota as a technical analysis manager?

A. Yes, that's correct. I'm a technical analysis manager, and that department resides within the legal department of Toyota Motor Sales.

Q. Who is Web Burns?

A. Web Burns is either assistant general counsel or general counsel of Toyota Motor Sales.

Q. Is he in your department?

A. He is the head of the department, yes.

Q. Who is his boss?

A. Christopher Reynolds.

Q. Is Web Burns an attorney?

A. Yes, he is.

Q. Is Christopher Reynolds an attorney?

A. Yes, he is.

Q. Who is his boss, Chris Reynolds' boss?

A. Bob Daly.
Q. Is he an attorney?
A. No, he's not.
Q. Have you done anything to prepare for today's deposition?
A. Yes, I have.
Q. What have you done?
A. I met with our outside counsel, and I reviewed some of my notes.
Q. Which outside counsel did you meet with?
A. I met with Vincent Galvin, Jr. and Lisa Gilford.
Q. When did you meet with Mr. Galvin and Ms. Gilford?
A. Various times last week.
Q. Approximately how many hours have you met with Mr. Galvin and/or Ms. Gilford to prepare for this deposition?
A. With respect to preparing for this deposition, I would estimate somewhere between six and eight hours total.
Q. What else did you do to prepare for this deposition besides

meeting with Mr. Galvin and Ms. Gilford?

A. I had reviewed some of the information that I have with respect to how electronic throttle control systems work, reviewed some parts that I have, made sure I had what I'd like to have to present today.

Q. What information did you review that you have in your possession concerning electronic throttle control systems?

A. There's a matrix that points out the different sensor systems and when we implemented electronic throttle control that I reviewed.

Q. Now, you understand that you have been designated to testify as a Rule 30(b)(6) "person most knowledgeable regarding a description of the testing done to confirm the performance of the electronic throttle control system, including the evolution of the electronic throttle control design, development and testing"?

A. Yes, I understand that.

Q. Are you aware that you've also been designated to testify as a 30(b)(6) person most knowledgeable regarding "the identity, nature, location and retention of documents related to information Toyota has received about speed control, surge, sudden acceleration events in Toyota and Lexus vehicles, including specifically warranty records, customer complaints, claims and lawsuits including ('Field performance documents')"?

A. I understand I'm one of the people that will be providing that information.

Q. Is your answer the same to the electronic throttle control system testimony, that you're one of the people that's going to be produced?

A. Yes, I believe that to be the case.

MR. ROBINSON: Do you want to make a statement?

MR. GALVIN: Yes. Just for clarification on category 12,

which is the ETCS category that you read first, Mr. Landis' testimony is going to be focused on the evolution of the system link to linkless and a general overview of the system. That was an issue during discussions we had had previously globally that that was an area that plaintiffs were interested in getting some background information.

In terms of detail, testing and detail design issues, that would be TMC witness. But to the extent you have questions that Robert could answer, feel free to ask them.

MR. ROBINSON: I think plaintiffs' counsel's concern is time on the subject matter of PMK Number 12. As I understand it, at least on a phone call we had last week, counsel has agreed that this deposition is a, quote, freebie, end quote, because we're going to

get someone from Japan who is going to know a lot of details of questions probably that I'm going to ask Mr. Landis that he's not going to know about. Is that fair enough?

MR. GALVIN: That's what I said on the phone, and that's what I said to you before the deposition.

MR. ROBINSON: Thank you very much.

MR. GALVIN: So, yes, that's what I said.

MR. ROBINSON: Okay. I will try and identify areas that I'd like to --

MR. GALVIN: Let me clarify that "freebie" so that if anyone reads or watches this later on, they don't think it's just some flip comment.

The approach that we are trying to take here is to provide information, and this system is a

complex system. We've had many meetings over the past few months where we've been explaining different aspects of the systems. Plaintiffs have raised questions that they had with us, and so we found it made sense to start out with someone who could give you a general description without the necessity of interpreters and the like, and that's what we're doing. And it sounds like it's all right with you if we do it that way.

MR. ROBINSON: Well, put it this way. Would I like to know chapter and verse about what happened at Toyota Motor Corp. from 1990 to the present regarding electronic throttle control systems? Yes. Would I like to know where all the documents are in Toyota Motor Corp.? Yes. But I'm willing to accept what you brought forth today.

MR. GALVIN: Okay.

MR. ROBINSON: Fair enough?

MR. GALVIN: Great.

MR. ROBINSON: Okay.

BY MR. ROBINSON:

Q. Now, how long have you worked in the legal department at Toyota?

A. I've worked in the technical analysis group since January 2003.

Q. What have been your duties in that technical analysis group within the legal department of Toyota?

A. The duties have been to use my engineering education and experience to analyze the field performance of Toyota, Lexus and Scion vehicles.

Q. So, would it be fair to say that you're not an electrical engineer, right?

A. No. My degree is in engineering. My emphasis was mechanical engineering.

Q. So, you have sort of a general engineering degree?

A. My Bachelor's Degree is in engineering. My subject emphasis was

mechanical engineering. I also took a lot of electrical engineering courses.

Q. But you're not an electrical engineer, correct?

A. That's correct.

Q. You're not an electronics engineer?

A. No, but I have an education that relates to electrical and electronics.

Q. And you got that education at Cal State, Northridge?

A. That's correct.

Q. You graduated in 1987?

A. That's correct.

Q. You took, as I understand it, the first half of the professional engineering exam, right?

A. That's correct.

Q. That's called the EIT?

A. It was called the EIT when I took it. I don't believe it's still called that.

Q. What is the EIT?

A. Engineering training.

Q. Now, you do not have a professional engineering license, though, right?

A. That's correct.

Q. Why is that?

A. Because I've never chosen to get a professional engineering license. It hasn't been something that's necessary for my career.

Q. And just to quickly go through your background, is it true that from 1989 to 1998, you worked for Nissan?

A. Yes. I worked for Nissan.

Q. Okay.

And you started at Nissan working the 800 hotline to support technicians in repairing vehicles, right?

A. Yes, that's correct.

Q. And then a few years later, you joined the engineering groups and worked on quality issues with engines and other vehicle issues?

A. Yes, that's correct.

Q. In fact, you gave one deposition in a Nissan civil case?

A. Yes, similar to a Lemon Law case.

Q. Okay. So it was a Lemon Law case?

A. Yes.

Q. Now, how many depositions have you given for Toyota?

A. As I mentioned before, I haven't tracked that. Somewhere between 15 and 20, counting the Nissan case. But less than 20.

Q. Have you given testimony in a case where Denso was the defendant?

A. Yes, I have.

Q. Who is Denso?

A. Denso is a component manufacturer. They manufacture a variety of electrical components used on Toyota, Lexus and Scion vehicles.

Q. Do they manufacture components that have to do with electronic throttle control systems?

A. Yes, they do.

Q. Which components do they manufacture?

A. Denso manufactured -- Denso is one of the suppliers of accelerator pedals, one of the suppliers of ECUs and supplies a portion of the electronic throttle.

Q. What portion?

A. They supply -- the electronic throttle is manufactured by Aisin Corporation.

Q. That's A-I-S-I-N?

A. That's correct.

Q. Is it Aisin Seiki?

A. It might very well be. I just --

Q. S-E-I-K-I is it or maybe you -- I forget how to spell it.

A. I'm not sure.

Q. Go ahead.

A. Aisin, who manufactures the throttle for vehicles that have electronic throttle control. A portion of the assembly, which I could show you on a part, is manufactured by Denso. That incorporates the accelerator pedal position sensors --

Q. Okay.

A. Or, excuse me, the throttle position sensors.

Q. We'll come back to questions about that. I want to get a little more of your background before we go into the PMK categories, person most knowledgeable categories. Fair enough?

A. Absolutely.

Q. Okay.

You went with Toyota in 1998?

A. Yes.

Q. You started as an engineer in the Lexus technical coordination department, right?

A. Yes.

Q. And then in 2000, you became an engineer with the Lexus chassis group?

A. Approximately that time, yes.

Q. And then in 2003 to the present, you've worked in the legal department of Toyota as a technical analysis manager, right?

A. I've worked within the technical analysis group as a technical analysis manager. Actually, my title is design and technical analysis manager.

Q. Fair enough.

You brought some exhibits with you to the deposition. Can you give us a list of what you brought with you?

A. Yes. Essentially what I brought is a mechanical throttle and mechanical accelerator pedal, as well as a throttle cable.

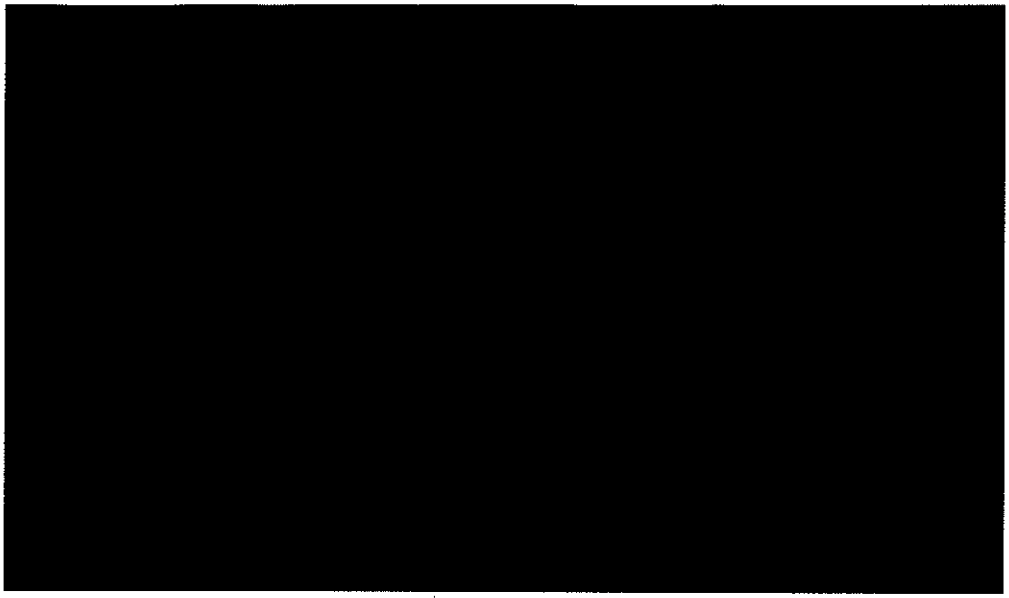
I've brought with me a link-style throttle assembly and a linkless-style throttle assembly with a resistive sensor, a linkless-style throttle assembly with a Hall effect sensor, accelerator pedals with resistive sensors and Hall effect sensors and cruise control actuator, and there could be one or two things that are not coming to my mind at the moment.

Q. You also brought with you Exhibit Number 1 and Exhibit Number 2, right.

(Handing over documents.)

A. Yes, that's correct.

[redacted]



Q. Let me ask you this. The group that you work for, who is it that you report to?

A. Barry Hare.

Q. Who is Barry Hare?

A. Barry Hare is the design and technical analysis national manager. He's an engineer like myself.

Q. Do you know why this technical analysis group was formed?

A. No, I do not.

Q. Do you know what the function of the technical analysis group is?

A. Yes.

Q. What is it?

A. Technical analysis group is involved in, as I mentioned before, analyzing the in-use performance of Toyota, Lexus and Scion vehicles typically in the context of a claim or a lawsuit. In addition, the group also reviews technical services bulletins, provides training on such things as air bag function and use to other parts of the company.

We also serve as a liaison to the community to provide information and support when there's some issue or potential issue with a Toyota vehicle such as the fire department or the police department.

There's various other activities that we get involved in.

Q. Are people chosen to work in that group or is there an open application process?

A. Open application process.

Q. Did you apply to be in that group?

A. Yes, I did.

Q. What training was provided to you so that you could work in that group?

A. There was a variety of training that was provided to me both from my fellow engineers that had been in the position as on-the-job training, also working with some outside experts in certain areas to increase my understanding of some areas that I hadn't been exposed to before. Then a lot of what I do relates to my prior experience throughout automotive engineering.

Q. So, did you work in a similar group at Nissan?

A. I did not work in a similar group at Nissan. I worked in quality, as you mentioned. However, during my time working in quality at Nissan, I got involved in inspecting stationary fires, and Nissan provided quite a bit of training with respect to stationary fires.

When I joined the technical analysis group at Toyota, I've been able

to build upon that experience, and I also inspect fires.

Q. I notice from your prior depositions that you're on the occupant or passenger restraint committee at Toyota?

A. Actually, that committee is an SAE committee, Society of Automotive Engineers committee.

Q. And you're on the SAE committee for passenger restraints?

A. That's correct.

Q. Are you on the SAE committee for automotive fires?

A. No. Well, I'm sorry, yes, I am. I am.

Q. Are you on the SAE committee for either sudden unintended acceleration or any other electronic aspect of motor vehicles?

A. I'm not aware of them having a committee regarding throttle control systems, but, no, I'm not on a committee related to electronic systems.

Q. I notice that you have

been -- strike that -- that in 2004 and maybe 2005, you went to Japan on the fire cases; is that right?

A. Yes. That's correct. Amongst other things.

Q. What fire cases?

A. I was there as -- one of the meetings was to discuss fires, the types of fires that take place in Toyota, Lexus and Scion vehicles.

Q. Since 2005, have you been back to Japan?

A. Yes, I have.

Q. When was the last time you went to Japan?

A. Couple of months ago.

Q. Can you tell me what month?

A. I think in July, but I'm not certain. It might have actually been earlier this month, of August.

Q. So, were you back there at the same time Mr. Galvin and other outside lawyers for Toyota were present?

A. Mr. Galvin was on that trip, yes.

Q. Was Ms. Gilford?
A. Yes, she was.
Q. Was Ms. Dawson?
A. Yes, she was.
Q. Were there any other outside lawyers from Toyota besides those three present?
A. Yes, there was.
Q. Who else was present?
A. Randy Bibb and Joel Dewey.
Q. Any others?
A. Not that I can recall. I'm sorry. Yes. There was one other additional gentleman.
Q. Who was that?
A. I cannot recall his name.
Q. Do you know if he worked for either Bowman & Broke or Alston & Bird?
A. He worked for Bowman & Broke.
Q. Is he a lawyer?
A. Yes.
Q. Were there any nonlawyers from either Alston & Bird or Bowman & Broke?

A. Not that I recall.
Q. Was Joel Smith there?
A. I apologize. Joel Smith was there as well.
Q. He's with Bowman & Broke, right?
A. Yes, that's correct.
Q. What were you there, about ten days?
A. No.
Q. How many days?
A. Five days.
Q. Five days in Japan?
A. Arriving on a Sunday night, departing on the following Saturday.
Q. Okay.
Now, I take it that you were there with these lawyers to learn about some aspects of the alleged sudden acceleration cases, right?
A. I was there to learn about electronic throttle control systems, brake override systems, EDR systems.
Q. This is important because this is going to help us someday to maybe

take depositions of people and maybe figure out where documents are. That's our goal here. And I guess I'm going to jump in here a little bit.

Who was it, and I mean plural, that helped teach you some things about the electronic throttle control systems, the EDR systems and the brake override systems?

A. Engineers from TMC.

Q. Can you give me --

I mean, this will really be helpful to us because this is what we need to know for future discovery. Can you give me the names of these TMC engineers that helped train you?

A. I can't recall the names of all of the engineers, but with respect to electronic throttle control, the engineer, his name is Mr. Miyazaki.

Q. How do you spell that?

A. M-I-Y-A-Z-A-K-I, I believe.

Q. Do you know his first name?

A. No, I do not.

Q. Who taught you about brake

override?

A. That gentleman, I cannot recall his name. I'm sorry.

MR. ROBINSON: Can we get a freebie on that, Vince? Who might have been the person, so we can take depos later?

MR. GALVIN: Yes. We're trying to identify, you know, the witness responsive to the BOS category.

MR. ROBINSON: No, but I'm -- okay. But I'd like to know --

MR. GALVIN: It's not -- there's not a name that we can give you right now.

BY MR. ROBINSON:

Q. Let me ask you, who taught you about the EDR system?

A. My main understanding comes from Mr. Shibata.

Q. How do you spell Shibata?

A. S-H-I-B-A-T-A.

Q. For the record, what is an

EDR?

A. Event data recorder.

Q. What is the function of the event data recorder?

A. The event data recorder's function was during the design and development of the air bag control system, it could store information regarding a crash to help and assist in the development of the air bag control system.

Q. Is any of the information regarding either speed or braking or any other information or data that can be retrieved in the EDR system received from the electronic control module on the Toyota/Lexus vehicles?

A. Yes, the degree of which varies by model.

Q. But what type of information comes from the electronic control module to the event data recorder on various makes and models?

A. There would be information regarding seat belt usage, seat belt

status usage. On some vehicles, there would be information regarding the stop lamp, the stop lamp plunger being pushed in, as well as the throttle position, the vehicle speed, and what position the transmission is in. And what position the transmission is in is defined as a drive gear or neutral.

Q. What about the pedal position?

A. The accelerator pedal position?

Q. Yes.

A. Yes.

Q. Would that information be conveyed from the electronic control module to the EDR?

A. On some vehicles, it would be shared, yes.

Q. Which vehicles?

A. I'm not prepared right now to go through which vehicles have EDR that has that type of information and what doesn't. My understanding is there will be other witnesses to discuss EDR,

and they'll be prepared to discuss it then.

Q. But you are here to talk about the electronic throttle control system, right?

A. That's correct.

Q. And part of the electronic control system is the ECM, right?

A. That's correct.

Q. Big part of the electronic throttle control system is the ECM, right?

A. Yes. The processors that are in the ECM.

Q. What is the ECM? What's that called?

A. Electronic control module. Some people call it ECU, electronic control unit. Some people call it -- ECM is engine control module.

Q. Okay.

But let me just see if I can understand something here. Electronic control unit, ECU, there are different electronic control units for various

aspects of the vehicle, right?

A. That's correct.

Q. For example, there's one that relates to steering that's called the EPS, right?

A. EPS stands for electronic power steering. And when you have electronic power steering, there's an electronic control module associated with the electric power steering.

Q. Right.

A. In this case, we're referring to the ECU that handles, amongst other things, power train commands. And with respect to electronic throttle control, that ECM actually has two separate microprocessors that independently are analyzing that throttle system.

Q. We'll come back to that. But I guess my point is, there's more than one ECU in the -- under the hood of the Toyota/Lexus vehicles, right?

A. There are more than one electronic control unit typically in a

Toyota vehicle, and I would not assume that it's underneath the hood.

Q. Well, in the vehicle?

A. Within the vehicle, yes.

Q. Let's go back to your trip in early August to Japan. So, you spent five days there, right, approximately?

A. Approximately, yes.

Q. Were you in a classroom setting? What type of setting was it?

A. Conference room setting.

Q. Were you allowed to ask questions?

A. Yes.

Q. Did people show you documents up on a screen?

A. I don't recall seeing any documents on the screen, no.

Q. Did you see any documents anywhere?

A. I take that back. I did see some documents on the screen.

Q. What documents did you see on the screen?

A. Some of the test standards

that are utilized for testing of the electronic throttle control system.

Q. Would you just describe generally what you saw when you -- that you describe as test standards?

A. When a test is performed at Toyota, there's a group of standards, what the temperature should be, how the equipment should be set up. And these test standards all involved EMI testing. They were testing --

Q. What is EMI for the record here?

A. Electromagnetic interference.

Q. Okay. Go ahead.

A. Or electromagnetic compatibility, EMC.

Q. Okay.

A. The test standards involved the emission of EMI from the vehicle as well as the compatibility of the vehicle with EMI. And I saw a number of the different test standards, things I had seen before.

Q. Were you given actual hard copies of documents or binders of information to review?

A. No, I was not.

Q. Were you given documents to review?

A. I don't recall reviewing any documents as an actual document.

Q. Were you given electronically stored information to look at?

A. No, I was not.

Q. Nothing was given to you by way of computer?

A. No.

Q. So, this was all --

These were all verbal explanations and -- for education by the various Toyota employees that taught you about these subjects?

A. Yes.

Q. Were these Toyota engineers --

Were these all from Toyota, the engineers?

A. I believe they were all Toyota engineers.

Q. Were they all speaking in English or were they speaking in Japanese?

A. Speaking in Japanese.

Q. Were there interpreters there?

A. Yes, there was.

Q. Did any of these people that you were taught by, were any of them speaking in English?

A. No. They all required translators.

Q. Were there any engineers there from Denso?

A. I don't -- I'm sorry.

Q. Go ahead.

A. I don't believe so.

Q. Did any of the -- strike that.

Were these all Toyota engineers?

A. I believe so.

Q. Were they all Toyota Motor

Corp. engineers?

A. That were providing the discussion?

Q. Yes.

A. Yes.

Q. So what was the general topic or topics covered under the heading "Electronic throttle control systems" by these Toyota engineers during the five-day period you were in Japan?

A. We discussed the history of the system, the design of the system, the componentry of the system, the fail-safes of the system, testing of the system.

Q. Anything else?

A. Not that I recall.

Q. If you had to explain to someone your understanding of the history of the system from what you learned during those five days, how would you describe it?

A. Well, the history of electronic throttle control?

Q. At Toyota.

A. At Toyota?

Q. Yes.
A. So, in the early '90s, Toyota began considering implementing electronic throttle control.
Q. Approximately what year?
A. I don't know. Early '90s.
Q. Like 1991?
A. Approximately around that time frame. I don't remember the exact year.
Q. Okay. Go ahead.
A. So, Toyota began considering implementing electronic throttle control, purpose being to improve drivability and improve safety. Around 1996 or in 1996, the first electronic throttle control system was implemented on a Toyota vehicle. That was the Toyota Corona Premio sold in the Japan market. The system later was brought in 1998 to the United States.
Q. Is that the Supra?
A. It was implemented on the Supra. It was implemented on a number of vehicles at that point.

Q. What other vehicles?

A. In 1998 it was implemented on all Lexus vehicles with the exception of the ES. It was implemented on the Supra, it was implemented on the Land Cruiser. It was only implemented on the normally aspirated Supra, not on the turbo Supra.

Q. What else did you learn about the history of the development of the electronic throttle control system between, say, 1991 and 1997 that you haven't shared with us yet?

A. Well, the specific details, I didn't prepare myself to talk about today. But in general, Toyota worked with its supplier, Denso, at that time, to develop a system.

Q. Is that Nippon Denso, do you know?

A. I think once upon a time it was referred to as Nippon Denso.

Q. Back in those days, in the '90s?

A. I don't know when they

changed their name. But we referred to it as Denso, Denso Corporation.

So, as I was mentioning, Toyota Motor Corporation engineers worked in conjunction with Denso to develop an electronic throttle control system. During that time frame, electronic throttle control had already been implemented, companies like BMW already had such a system, and such systems were benchmarked.

Q. For the record, what does "benchmarking" mean?

A. It means to take a look at a system and analyze its functionality and compare it to what your design parameters are, make sure that you've got your bases covered.

Q. As I understand it, at that time, Audi and Volkswagen and Mercedes also had electronic control systems, correct?

A. I don't know that for a fact. I believe they were all using Bosch as their control systems.

Q. For the record, what is Bosch?

A. The Robert Bosch Corporation. It's a German company, originally a German company that supplies electronics, just as Denso supplies electronics.

Q. Okay.

Just because I'm trying to get records someday here with our discovery, I'd like to know, if I wanted to describe -- strike that.

If you wanted to ask Toyota Motor Corp. to send you all benchmarking related documents, i.e., analysis, reverse engineering, et cetera, of other electronic control systems on BMW, Volkswagen, Audi, Mercedes or any other vehicle, or even benchmarking the Bosch systems from the '90s, how would you request those documents from Toyota Motor Corp.?

A. Well, I'd start really by assuming that documents such as that were used in the development of the vehicle

would no longer be present, but if they were to exist, I would just describe it as any benchmarking documents related to the development of the ETCS-i system.

Q. But my point is that you learned when you were in Japan that they did benchmark BMW and maybe some other systems, right?

MR. GALVIN: I think that misstates his testimony.

BY MR. ROBINSON:

Q. Go ahead.

A. What I heard is that they had -- that BMW already had a system in place and that they had studied that system. Whether they benchmarked against it, I don't know. And anything beyond just studying it, I don't know.

Q. Okay.

Now, in terms of the development of the Toyota electronic control system between 1991 and 1997, was there one person that was in charge of that project?

A. I don't know. I don't know

whether there was one person or multiple groups responsible.

Q. Was Mr. Miyazaki part of that process?

A. No, I don't believe so, not in the initial stages.

Q. When do you believe he got involved?

A. I'm not certain.

Q. Well, do you have any names from anybody who was involved in the process in the '90s at Toyota Motor Corp.?

A. Not that I recall.

Q. What about the event data recorder development? Was Mr. Shibata involved with the development of the data recorder at Toyota?

A. I'm not certain.

Q. What about test standards? Was either Mr. Miyazaki or Mr. Shibata involved with Toyota test standard development?

A. I'm not certain.

Q. Do you know who developed

the 1990s -- strike that -- electronic throttle control system utilized in the 1996 Corona Premio that was first marketed and sold in Japan?

A. I'm sorry, the question was who was responsible for the test standards for that vehicle?

Q. Uh-huh.

A. No. I don't know.

Q. Do you know who was involved in the design of the electronic throttle control system on that vehicle?

A. No, I do not know.

Q. Do you know -- strike that.

Have you looked at test documents that related to that vehicle?

A. I don't believe I've ever seen test documents related to that vehicle. However, I would fully expect that the EMI standards and some of the other test standards that I've seen are the same standards that apply to those prior vehicles.

Q. So, the documents that you said you saw back in Japan that were EMI

standards you think would have applied to those vehicles -- to that vehicle?

A. I believe so. There might have been some future or some iterations that took place in that document as testing has changed and test requirements have changed. But the general basis of those documents I would expect to be very similar.

Q. For the record, how would you describe what the EMI standards were for electronic throttle control systems in the '90s?

A. Again, the electronic throttle control system standards or test standards that I looked at were the current ones. What I'm stating is the ones that I looked at would be similar for the Corolla, Premio, as you asked, and those standards involved what type of electromagnetic interference the vehicle and the component parts are tested to, as well as what kind of radiation might occur from componentry on the vehicle outward.

Q. Is there --
Are these SAE standards?
A. These standards are Toyota-specific standards that might reflect different SAE European standards, other international standards.
Q. Do any of those standards incorporate, you know, aviation standards, do you know?
A. I do not know. My understanding is that there will be people provided during this deposition process that know more about these standards.
Q. So, you say also, in addition to the history, you were taught about the design of the electronic throttle control system, right?
A. The background and the design, yes.
Q. Did anybody describe to you the patent process for any of the components on the Toyota electronic throttle control systems?
A. No.

Q. Have you ever looked at any of the patents that Toyota holds or Toyota employees hold for the electronic throttle control system?

A. I might in one matter I was involved in that seems to ring a bell that when I looked at document production, there might have been something related to a patent.

Q. What was that related to?

A. I don't recall. I just remember the matter name.

Q. What was the matter name?

A. Greenie.

Q. That's a case in Texas?

A. That's correct.

Q. Did you give a deposition in that case?

A. Yes, I did.

Q. Was that an unintended acceleration case?

A. The claim was unintended acceleration.

Q. Going back to -- what else --

What were you taught during the five-day period about the design of the electronic throttle control?

A. Well, much of it was a review. Just with respect to how we began with the linkless or link style and how we progressed to the linkless style, how we progressed through the different sensor systems. A discussion of the fail-safe systems. Those items each entail quite a bit, and that's what the discussion was about.

Q. Now, on March 19 of this year, you gave a deposition in a case called Alberto; is that right?

A. I'll take your word for the date of it, but, yes, Alberto.

Q. Would you say that this week training that you got in August of 2010 has increased your knowledge about the design of the Toyota electronic throttle control system with intelligence?

A. I would imagine there's something that I learned that I didn't know earlier this year.

Q. Would you say that you learned a lot about the history of the system that you didn't know at the time you gave the deposition in Alberto?

A. I've increased my historical knowledge, yes.

Q. I've read your deposition in Alberto. Would you describe what it is that you've learned from that week in Japan that increased -- that was part of the increase in knowledge that you received in that training?

A. Well, Alberto was a deposition that involved a specific Camry, I believe it was a 2005 Camry. And so historically, the things that I learned don't impact the questions that took place with regards to a 2005 Camry. So, I'm not quite sure --

Q. Well, what are the new things you learned about the history of the electronic throttle control system?

A. I think the significant point to myself is why -- what changed, why we chose to change from having a link

style to a linkless style.

Q. Why did you?

A. The reason TMC chose to go from a link style to a linkless style is the customer feedback regarding one of the limp-home modes, such that customers were not happy how it was -- as happy as they could be with how it was implemented in the link style. So, we went to the linkless style. That was the significant reason.

Q. You say that you also have training on the brake override system. What new things did you learn about the brake override system in August of this year while you were at Toyota Motor Corp.?

A. Actually, I don't recall learning anything new because during the discussion of the brake override system that was going on, I chose to go and listen more to the electronic throttle control system.

Q. Let me ask you this. Tell me what you do know then about the brake

override system especially as it relates to the electronic control module.

A. Well, I know the basics. I'm prepared to answer the basics with regard to the brake override system. The brake override system utilized -- in order to implement the brake override system, which is the application of both the throttle and the brake pedal such that the accelerator sensor output is ignored by the ECU, requires a certain amount of acceleration, a certain amount of speed, and a certain timing with respect to the application of the brakes and the throttle.

Q. As I understand it, maybe earlier this year, the electronic control modules on some vehicles, some Toyota vehicles were reflashed with this brake override system?

A. Yes. As part of a special service campaign that's going on, certain vehicles have been reflashed to incorporate this brake override system software.

Q. What does "reflash" mean?

A. Reflashed means that some program in the computer is reprogrammed to a different set of instructions.

Q. So, obviously in the computer -- strike that.

When you say "computer," we're talking about the electronic control module, right?

A. We're talking about various computers that reside within the electronic control module.

Q. Well, we know -- you mentioned the two CPUs, right?

A. There's two CPUs dedicated to the throttle system. There's multiple CPUs in the computer.

Q. Do you know if the reflashing that occurred earlier this year as part of this recall on floor mats and/or the pedals were reflashing that took place in either of the CPUs?

A. I don't know where that reflashing resides with respect to those two CPUs.

Q. Are you aware that, for example, they were able to reflash on the 2007 through 2010 Camry, but apparently there wasn't enough room for the code in the 2002 to 2006 Camrys?

A. I'm not aware of that.

Q. Do you know that on some vehicles, there was not enough room so that the reflash could be used on certain vehicles?

A. I'm not aware of that being the case, but I don't know the details of that.

MR. GALVIN: Let me just interject. Stated differently, he's not a BOS witness, so, whether there was or was not, he's not here --

MR. ROBINSON: These kind of questions, you are going to have somebody else --

MR. GALVIN: Yes, the BOS witness will deal with these. So, when you said I don't know, I assume you meant you don't know

one way or the other as opposed to --

THE WITNESS: I hope that was clear.

MR. ROBINSON: I understand what he's saying.

BY MR. ROBINSON:

Q. Then you said that a lot of what you learned was aspects of the fail-safe system when you were in Japan?

A. Yes. Actually, it just reinforced my understanding.

Q. But did they teach you a little bit more about the fail-safe system that you didn't know at the time of Alberto?

A. I don't believe so, no.

Q. For example, in Alberto, you talked about four fail-safe systems, right?

A. There are --

Q. Four fail-safe strategies?

A. Yes, there's four fail-safe strategies.

Q. Without going into any

detail, we can probably have you explain, you know, when we go through these exhibits you brought, but did you learn anything more about those four fail-safe strategies that you do not know now or that you know now?

A. No. I believe my understanding at the time at Alberto wasn't enhanced during that trip.

Q. What did you learn about the design of the electronic throttle control system in Japan in August that you didn't know before you went there?

A. Again, I think it related to the evolution from the link style to the linkless style and a bit about the history. But outside of that, it was just a reinforcement of what I actually already knew.

Q. You stated in the Alberto deposition that Mike Kimura was the Japanese coordinator you would ask questions about the ETCS-i system. Is that still the case?

A. Mike Kimura is a Japanese

coordinator assigned to the technical analysis group. So, he would be the person that I would go to to get a question to TMC.

Q. I understand that he's spending three years there at Toyota Motor Sales?

A. That's my understanding.

Q. Now, are you still using Mr. Kimura for information?

A. Yes. At times, yes.

Q. Have you used --

Have you asked him information concerning the electronic throttle control system since you came back from Japan?

A. No, no. And I don't believe I have ever asked him a question regarding the electronic throttle control system.

Q. Let me ask you this.

If I wanted to take a deposition at Toyota Motor Corp. -- strike that.

You went back and you were

educated by various Japanese engineers, Toyota employees at Toyota Motor Corp., right?

A. Yes, that's correct.

Q. How many of those Toyota engineers were you trained by in any way?

A. Probably a half dozen or so.

Q. Six, approximately six?

A. Approximately six, yes.

Q. One of them was Mr. Miyazaki?

A. That's correct.

Q. The other one was Mr. Shibata?

A. Yes.

Q. Can you give me any other names, last names of people from Toyota Motor Corp. that you were educated by?

A. Yes. The gentleman that educated me with regards to EMI testing.

Q. Who was that?

A. His name is Nakanishi-san.

Q. N-A?

A. N-A-K-A-N-I-S-H-I. I don't know if that's correct.

MR. GALVIN: That's correct.

BY MR. ROBINSON:

Q. And then san is S-A-N, right?

A. San is not part of his name. That's just like Mr.

Q. You said that you were also trained in August of this year at Toyota Motor Corp. in Japan about testing concerning electronic throttle control systems, correct?

A. I don't know that training is the correct word, but we had discussions regarding the testing.

Q. Who gave you information about testing from Toyota Motor Corp.? Who from Toyota Motor Corp. gave you information about testing?

A. The person I remember is Nakanishi-san.

Q. What did he tell you about testing?

A. He's the gentleman that put the different test standards with regards to electromagnetic compatibility up on

the projector. We discussed the different standards.

Q. Well, besides electromagnetic compatibility and electromagnetic interference test standards, did you discuss any other types of test standards when you were back in Japan in August of 2010?

A. I don't recall discussing any other test standards.

Q. So, the only test standards that you remember discussing were those related to EMI or EMC?

A. That's correct.

Q. To your knowledge, did Toyota have any other test standards that it utilized in the development or design of the electronic throttle control system, say, from 1998 through the present?

A. Yes. There's --

Q. How would you describe those test standards?

A. I would describe those test standards as test standards that are for

component level and vehicle level. Those test standards cover functional testing. They also cover reliability testing. Those test standards include everything from software development and error checking through to salt spray, humidity, dust intrusion of component parts. In addition to those tests, there's -- of course there's suitability testing that takes place. That's the sort of testing where hundreds of thousands of miles are accumulated on the vehicles.

Q. Let me go through what you said here. You talked about software development test standards. How would you describe those test standards?

A. To the best of my ability, they involve error checking.

Q. E-R-R-O-R?

A. Right, error checking.

Q. What type of error checking?

A. Error checking would involve making sure that the software operates correctly. There's programs that you run to make sure that every variable is used

the way it should be used, that every algorithm operates as it should.

Q. You talked about salt spray testing?

A. Salt spray testing is one of the sort of tests that you'd expect with respect to component part testing.

Q. Hundreds of thousands of mile testing, what does that relate to?

A. That would be part of suitability testing.

Q. What does suitability testing refer to?

A. Suitability testing verifies that the vehicle will operate as TMC intends it in the markets where it's going to be sold.

Q. Now, when you --

A. And that suitability testing in that case is also involving the durability testing.

Q. So, if I wanted to receive documents from Toyota regarding all of these aspects of testing, including EMI testing, software development testing,

error checking testing, salt spray for humidity testing, dust intrusion testing, suitability testing, 100,000 miles testing, et cetera, where would those test documents be kept?

A. If the test documents have been kept, TMC would have kept them with the pertinent engineering departments.

Q. Do you know if Toyota Motor Sales also has these test results in their offices here in the U.S.?

A. I don't know whether Toyota Motor Sales would have those documents. They aren't part of the normal documents that TMS handles. That said, I recognize that Toyota Motor Sales gets involved in legal matters, and some of these documents might have been produced in the past and are involved in some sort of case file.

Q. But in those cases, those legal cases, those documents come to Toyota Motor Sales and the legal department from Toyota Motor Corp., right?

A. That's correct.

Q. So, the testing, as you understand it, is done at Toyota Motor Corp.?

A. The majority of the testing is done at Toyota Motor Corporation. Some of the testing at the component level might be done at the supplier. And some of the suitability testing -- some of the suitability testing would be done by Toyota Motor Corporation, but done in the United States.

Q. What is suitability testing again?

A. Well, it's to make sure that the vehicle is appropriate for the marketplace. So, if they produce a vehicle, say, that has some brake noise, the American market is completely unforgiving of brake noise. But if you have brake noise in your Scion car in Europe, Europeans don't have any sensitivity to brake noise. So, it's to make sure that the vehicle performs specific to the market conditions.

Q. You talked about software testing to make sure the software runs correctly. What do you mean by that?

A. Software testing would take place as both static and dynamic. Static testing would be to make sure that there's no errors in the software, and to do that, you'd run different programs that test the software.

Q. For the record, because I don't know the jury is understanding what you are saying when you say software, why don't you describe what software is involved in the, for example, the electronic control module?

A. Well, the electronic control module have numerous software. There will be software that runs the air conditioning, software that potentially runs the power windows or the transmission. With respect to the electronic throttle control system that we're talking about, there would be software that's utilized, which is the code, which is what the computer

programmer puts in, I believe, in C plus language, that says when the accelerator pedal is pushed down, the throttle will open a certain amount. This is the code that is really specific to specific vehicles such that the code that you might find for a Camry is different than the code that you might find for a Corolla because the vehicle power train is different and other parameters are different.

Q. So, the electronic control module code that is part of the software that relates to the electronic throttle control system is different when you go from one vehicle to the next?

A. Yes, it is. It's specific to specific vehicles.

Q. Are there any coding aspects that are common throughout all the Toyota, Lexus and Scion vehicles for the electronic throttle control system?

A. I'm not familiar enough with the coding of the electronic throttle control system to answer that.

Q. If I wanted to find out -- strike that.

From your knowledge now, you've met six engineers at Toyota Motor Corp., you've talked to Mr. Kimura, and anybody else you've talked to, if you wanted to ask somebody that you've met in your life that knows the most about the coding and the software used in the electronic control module that relates to the electronic throttle control system, who would you talk to?

MR. GALVIN: You, of course, are excluding the lawyers, right?

MR. ROBINSON: Yes.

THE WITNESS: I would start with Vince Galvin.

MR. ROBINSON: Let's hope you're wrong.

BY MR. ROBINSON:

Q. Who else would you go to?

A. I would probably start with or I would start with Mr. Miyazaki.

Q. He seemed to be pretty bright?

A. He's exceptionally bright and exceptionally knowledgeable.

Q. Do you know what his title is?

A. No, I don't.

Q. Do you know his first name?

A. No, I don't. I believe his first initial -- actually, I'm not sure. I wanted to say I think his first initial is M as well, but I'm not sure.

Q. Mr. M.?

A. Well, in the Japanese culture, the first name is not utilized typically, san.

Q. Miyazaki-san?

A. Miyazaki-san or Mr. Miyazaki.

Q. For the EDR, or as you guys call it, the silver box; is that right?

A. I believe I might have referred to it as the silver box when somebody tried to tell me it was the black box. But it could be -- the color is unimportant. What we're referring to is the EDR.

Q. So, maybe it is not the silver box?

A. The EDR is the EDR.

Q. Who would be the person that you would go to from all the people that you've met in your life that would know more about the Toyota vehicle EDR if you wanted to get information about that?

A. Present company excepted once again?

Q. Mr. Galvin excepted.

A. Mr. Shibata.

Q. Once again, we don't know his first name?

A. His first name does begin with an M, and I know him as Mr. Shibata.

Q. Now, same question for the brake override?

A. The brake override gentleman I do not recall.

Q. But there was such a gentleman that taught you something about the brake override?

A. Yes, there was such a gentleman.

Q. You don't remember his name?
A. No, I don't.
Q. Maybe Mr. Galvin can remember his name?
A. I can't answer for Mr. Galvin.
Q. You know, we --
MR. GALVIN: Not to leave a dangling thing there, I can't recall who would be that person, but we are trying to identify the person that will explain that system.
MR. ROBINSON: Maybe we can also request that you give us Mr. Miyazaki and Mr. Shibata on their subject matters just as possibilities.
BY MR. ROBINSON:
Q. Were you impressed with your meeting with Mr. Miyazaki and Mr. Shibata?
A. I was impressed, but I'm not saying they are the most knowledgeable people in their areas.

Q. So, you've learned some of the legalese working --

A. Well, I can see how this is getting manipulated, but basically these are the people that I have talked to, and I found them to be knowledgeable. There might be more knowledgeable people or people that can cover this set of topics better.

MR. GALVIN: Thank you for identifying. See, our obligation is to provide someone that is knowledgeable and can provide the information you want. Just because he happens to have spoken with a few people doesn't mean they meet the criteria that we're obligated to provide you.

MR. ROBINSON: You're trying to get off of having to produce Mr. Miyazaki-san and Mr. Shibata-san, but I'm going to still work on you.

THE WITNESS: Well, maybe Mr. Galvin wants to produce the

person that fits the bill better.

MR. ROBINSON: Maybe he can find the person who designed the original Toyota electronic throttle control system.

THE WITNESS: And that person might not be the best person to answer all the other questions about the throttle system.

BY MR. ROBINSON:

Q. I looked at some of the records. Before I get into your documents that you've brought with us and you've explained to us what you've brought here, I want to make sure I understand all the cases that you've testified in. You told us that you testified in the Greenie case, right?

A. That's correct.

Q. What I'm talking about are cases that have some aspect of unintended acceleration about them, right?

A. If that's what you'd like, yes.

Q. What about the Sitafalwalla case?

A. Yes.

Q. Where was that case? Where did that accident happen?

A. That accident took place, I want to say in Pennsylvania, somewhere on the East Coast. I'm not positive.

Q. What about the Ramoli case?

A. The Ramoli case, which is a floor mat case, also took place on the East Coast. I want to say with respect to that, New York.

Q. And Sitafalwalla was a defect in the electronic control module?

A. Sitafalwalla was a pedal misapplication case with a Scion 2C.

Q. That's your opinion, right?

A. That's my opinion.

Q. Somebody else may be claiming it was a problem with the software?

A. I don't know exactly what they are claiming.

Q. What about the Levitin case?

A. Levitin case is --

Q. How do you spell Levitin? Is it L-E-V-I-T-O-N?

A. I think it is Levitin, T-I-N, I believe.

Q. T-I-N, okay. Good. Where was that case?

A. That's also in the New York area.

Q. Where was the Ramoli case?

A. Also in the New York area.

Q. What about the Alberto case. That was in Michigan?

A. The Alberto case was in Michigan.

Q. What other -- strike that.

You did actually do some investigation in the Saylor case, right?

A. Yes. I did.

Q. But you didn't give a deposition in that case?

A. No, I did not.

Q. Any other cases that you have given a deposition on besides Alberto, Levitin, Ramoli, Greenie and

Sitafalwalla?

A. With respect to electronic throttle control systems?

Q. Yes.

A. Or floor mat issues? What comes to mind is those. I might be missing something, but I don't believe I am.

Q. You have also given testimony in Toyota/Lexus fire cases, right?

A. Yes, I have.

Q. The ball joint case, right, Toyota Sequoia?

A. Yes, that's accurate.

Q. Now, since the Saylor dealer's lawyer just walked in the room, I'll ask you some questions about your investigation in the Saylor case. What did you do in the Saylor case?

A. I basically inspected the vehicle.

Q. Approximately when?

A. Earlier this year. I couldn't tell you exactly when. I

believe I've seen that vehicle twice.

Q. Approximately what dates?

A. Again, sometime first quarter of this year.

Q. During the first inspection, what did you do?

A. I inspected the vehicle.

Q. What did you --

What parts of the vehicle?

A. I don't remember the specific details of my inspection, but I would have done my best to inspect every part of the vehicle.

Q. Well, did you inspect the floor mat and the driver's seat area?

A. I don't remember if that was in my first inspection or second inspection to be honest. I seem to remember that there were two inspections. There might have even just been one inspection.

Q. But --

A. But I have inspected the floor mat and the accelerator pedal.

Q. What did you see?

A. That the floor mat is basically bonded to the accelerator pedal. In addition, I also saw that the floor mat belongs in an RX 400 or RX 350.

Q. What else did you observe?

A. With regard to the pedal and the floor mat?

Q. Yes.

A. Those are the key things that come to mind right now.

Q. Did you do any electrical or electronic testing on this Toyota vehicle?

A. I did not, no.

Q. Were you present when someone tried to?

A. I might have been. I don't recall.

Q. Do you remember anybody doing any type of -- strike that.

Did anybody have any tools that they put on any aspect of the Saylor vehicle that attempted to get electrical information from any component or any aspect of the Saylor vehicle?

A. No, that I recall with respect to the vehicle. Now, I myself was involved with the event data recorder and whether or not information could be pulled from the event data recorder. That was separate from the vehicle.

Q. What did you do in that regard?

A. I was provided with the event data recorder by the San Diego Police Department, and the event data recorder was severely damaged in the Saylor accident, and I was not able to read out the box using our tools.

Q. What kind of tool did you use?

A. The event data recorder readout tool.

Q. Are you capable of using that tool?

A. Yes, I am.

Q. When did you first learn how to use that tool?

A. Well, that tool has been through a couple of iterations. So, I

don't know when I first became aware and started utilizing that tool. But several years ago.

Q. When you say that tool has been through several iterations, can you generally give me the different iterations, please.

A. Well, it's just -- it resided -- you know, I can't remember all the details. It resided on a different laptop at one point. It's had different software as the event data recorders in the vehicles have changed. As I mentioned before, some have some forms of data, some don't have that same data. So, the software in the event data recorder tool has changed, and the readout that it provides has changed as a result of that.

Q. For example, as I understand it, you know, if we were using the current tool today in 2010, would the readout be different than maybe the readout tool that was used, say, in 2009?

A. It could possibly be.

Q. Same for 2008?
A. It could possibly be.
Q. Same for 2007?
A. Yes. I haven't prepared myself today to talk about EDR.
Q. I understand.
A. I understand there will be a witness to go into detail about EDR.
Q. I just want to ask one thing.

Would it also be true that the EDRs in the make, model year vehicles have changed in terms of what data can be extracted, you know, say, from 2005 or 2006 to, say, a 2010 vehicle?

A. I'm not sure I understand your question. If I could rephrase it?
Q. Go ahead.
A. With regards to vehicles from 2005 to 2010, the information that's stored in the event data recording systems has changed on some of those vehicles. There are different capabilities of EDR in different vehicles.

Q. For example, as I understand it, back maybe three years ago, certain EDRs on certain Toyota vehicles could not give you a readout on braking, correct?

A. The way the EDR is structured is some EDR provides precrash information and post crash information. Post crash information involves the actual accident, and it includes things such as the status of the seat belt switches. If a vehicle only has post crash information, it doesn't include information prior to the crash such as brake usage. You need to have a vehicle with precrash information to have what we discussed before, the brake switch, brake light switch status, the accelerator pedal position, the vehicle speed, and things of that nature.

Q. Now, if I wanted to get a chart of which vehicles could give you precrash information such as braking, which vehicles can't give you that, and we took all the Lexus cars -- strike that -- the Toyota and Lexus cars and/or

trucks, how would I get such a chart?

A. You'd make a request for such a chart. However, one area that needs to be clear is the implementation from precrash or from crash data to precrash, and crash data doesn't cut along model year lines like the chart that we discussed with respect to electronic throttle control. So, some vehicles might start production without precrash and segue into having precrash.

MR. GALVIN: Just for clarification, the best way to get that would be for us to wait for the witness for categories 9 and 10.

MR. ROBINSON: Okay. I just want it so I can know what -- well, I'm trying to learn what documents, too, and I'm almost done with this.

MR. GALVIN: I haven't told him no. I'm just telling you -- you said what's the best way, and the best way would be for the guy

that's actually --

MR. ROBINSON: I agree. I'm just getting a precursor here.

MR. GALVIN: A teaser.

MR. ROBINSON: A teaser, right, a freebie.

BY MR. ROBINSON:

Q. So, there are, for example, I don't know, I'm just going to use hypothetical vehicles.

A. Yes.

Q. For example, maybe in 2008, Toyota vehicles and Lexus vehicles, there are some vehicles that you could get precrash readout and other Toyota manufactured vehicles that you can't get precrash readout, correct?

A. Your hypothetical is correct, yes.

MR. ROBINSON: So, we're going to have to wait for this person that's going to give us the specific information, right, Mr. Galvin?

MR. GALVIN: Yes. The

witness that can testify to the categories in 9 and 10.

BY MR. ROBINSON:

Q. By the way, is the first name of Mr. Miyazaki, Hiroharu, H-I-R-O-H-A-R-U?

A. That doesn't sound right to me.

Q. Good. That came from Mr. Slavik. Or Panish. That came from Panish.

MR. ROBINSON: This would be a good time to change the tape.

THE VIDEOTAPE TECHNICIAN: The time is now 10:25 a.m., and we're off the record.

- - -

(Whereupon, a recess was taken from 10:25 p.m. until 10:44 a.m.)

- - -

THE VIDEOTAPE TECHNICIAN: The time is now 10:44 a.m., and we're back on the record. This is the beginning of Tape Number 2.

BY MR. ROBINSON:

Q. You said that in preparation for this deposition, you met with Ms. Gilford and Mr. Galvin for about six to eight hours, right?

A. Approximately.

Q. And you reviewed some notes, right?

A. Yes.

Q. Where are those? Are those in your car, those notes?

A. No. This is what I'm referring to, these documents here. (Indicating.)

Q. Those don't look like notes.

A. Well, I'm sorry, this is what I'm referring to.

Q. Are you telling me that these charts that are --

MR. PANISH: Exhibits.

BY MR. ROBINSON:

Q. -- Exhibits 1 and 2 are notes?

A. Well, in addition to these, the attorneys also presented to me

samples of field technical reports and possibly a customer relations report. Those things are also items I reviewed.

Q. I think the record will speak for itself, but you said, I reviewed my notes. What notes did you review?

A. In addition, when we had this, I brought with me some training documents that are for ETCS-i from the European market, and I have those documents as well.

Q. But what notes did you review, of your own notes?

A. Those are not my own notes. Those are just notes that I reviewed.

Q. I'm sorry. You said --

I think the record will speak for itself. You said, I reviewed my notes.

A. Yeah. Then maybe I mischaracterized the documents -- or the document that I brought that I used to review from.

Q. Well, you certainly have

notes from your five-day seminar in Japan, right?

A. That's correct.

Q. Where are those notes?

A. I didn't take notes. When I was there, I just listened. And it's not a seminar, as I mentioned before, it's just a discussion.

Q. Five-day discussion?

A. Yes.

Q. And you took notes?

A. I did not take notes.

Q. You took no notes?

A. I took no notes.

Q. Well, what notes did you review in preparation for this deposition? You said you read -- you "looked at my notes." What notes were they?

A. And then I guess I mischaracterized the use of notes. I reviewed the training documents for ETCS-i, because my understanding is I'm going to be explaining ETCS-i.

Q. Well, ETCS-i training

documents are documents prepared by Toyota, right?

A. That's correct.

Q. These are training documents prepared by Toyota?

A. That's right.

Q. Those aren't your notes?

A. Well, that's what I refer to as my notes. That's what I relied upon, is the training documents, as well as this document right here, which is marked Exhibit 1.

Q. Well, maybe after the break, if you remember what you meant by notes, and if they're still in your car, would you get them. That's all I'm asking.

MR. GALVIN: I'm going to object as argumentative. He's told you what he said. So, when you say, "maybe...if you remember what you meant," I think he's answered your questions.

THE WITNESS: And I'm sorry. My notes to me are something that's already been produced.

It's not my handwritten notes. They're just the notes that I studied.

BY MR. ROBINSON:

Q. But you did review these training documents?

A. Yes.

Q. Where are those documents?

A. At my office.

MR. ROBINSON: Well, I believe since he refreshed his memory with them, we're entitled to them.

MR. GALVIN: Okay.

MR. ROBINSON: Can you give us copies of those?

MR. GALVIN: Uh-huh.

MR. ROBINSON: Maybe after lunch, we can get a copy.

THE WITNESS: What that is, so you know, it's training documents that were used in Europe that cover the ETCS-i.

BY MR. ROBINSON:

Q. Now, you told us the lawyers

that were with you on this five-day training session at Toyota Motor Corp. in Japan. Who else was there from Toyota Motor Sales? Was Mr. Hare there?

A. Mr. Hare was not there.

Q. Who else was there from your -- from Toyota Motor Sales for this presentation in Japan?

A. A colleague of mine, Mark Jakstis.

Q. How do you spell his name?

A. M-A-R-K, J-A-K-S-T-I-S, as well as Doug Bishop, both of TMS.

Q. Doug Bishop is a lawyer with TMS, right?

A. Doug Bishop is an in-house counsel. That's correct.

Q. Does he work in that same department you work in?

A. Doug Bishop works in the business legal department.

Q. How far is his office from your office?

A. I don't know, 100 yards.

Q. How far is Mr. Burns' office

from your office?

A. Probably 100 yards.

Q. Now, earlier in the deposition when I asked you questions about documents from the 1990s concerning the research and development for the electronic throttle control system, you said, if the documents were kept by Toyota Motor Corp. Can you tell us if some of the documents relating to electronic throttle control were, in fact, kept by Toyota Motor Corp.?

A. I don't have any knowledge one way or another.

Q. Do you know what the document retention policy is for Toyota Motor Corp.?

A. No, I do not.

Q. Is there a document retention policy for Toyota Motor Sales?

A. Yes, there is.

Q. What is that?

A. It varies by department and varies by document.

Q. Well, why don't you -- let's

talk about -- well, tell me how it varies.

A. Well, I'm not prepared to talk about the details of the document retention policy. My understanding is rather basic. With respect to documents where there's some claim of injury or something that's Tread reportable, it's kept for at least five years. That's the extent.

Q. That's Tread reportable, T-R-E-A-D, right?

A. That's right.

Q. That's a law that requires Toyota to keep certain documents, right?

A. To the best of my understanding, yes.

Q. What else do you understand to be the document retention policy of Toyota Motor Sales?

A. That's about the extent of it off the top of my head.

Q. Well, what if there's design drawings for, for example, an electronic throttle control system, is there a

policy to keep those documents forever?

A. You are referring to TMS?

Q. Yes.

A. TMS wouldn't have documents relating to the electronic throttle control system design.

Q. Are there any documents that TMS keeps forever?

A. I don't know one way or another.

Q. Have you seen documents of TMS that go back to 1990?

A. Yes, I've seen such things as repair manuals that go back to 1990.

Q. Anything else?

A. Not that I recall. There could be some documents that were created that go back that far. I'm not sure. I haven't looked and tried to judge that before.

Q. Have you at any time attempted to go through the 37,900 alleged sudden acceleration event claims?

A. Well, my understanding of those alleged claims is that they're

customer relations contacts or customer complaints that, as you point out, aren't specifically UA complaints and come from a very broad search, and I myself have not gone through them.

Q. Have you gone through any of them?

A. No, I have not.

Q. Who --

If I wanted to find out who would have those documents in his or her possession, would that be something that Carole Hargrave would have in her possession?

A. No, it's not something that I believe she would have in her possession.

Q. Where would I get that at Toyota Motor Sales?

A. Well, those documents, again, were customer relations reports. So, it would be somebody from our customer relations department.

Q. Who is the head of that department?

A. I'm not positive who the head of that department is.

Q. Do you know anybody in that department by name?

A. I'm not certain.

Q. You don't know anybody in that department?

A. Actually, it's not a department I deal with normally.

Q. Have you ever called that department up to try and find documents that related to sudden acceleration claims?

A. No. If I was interested in such documents, I would talk to a paralegal and ask them to do such a search.

Q. Who would the paralegal talk to?

A. Somebody in the customer relations department with respect to customer relations records.

Q. Have you ever met with Carole Hargrave?

A. I have.

Q. How many times?
A. What's the definition of "met with" her?
Q. Talked to her on the phone, met with her in person.
A. Well, most days I see her come into the office, so, say hello to her. I work with her when she has claims. So, as an as-needed basis when she has some questions. So, several times a week I might talk to her.
Q. Where is her office in reference to your office?
A. Oh, probably 30 feet away.
Q. What is her job duties?
A. She's responsible for claims management.
Q. What do you mean by "claims management"?
A. I mean when somebody makes a legal claim against Toyota, she's responsible for responding to them, making sure that we have an understanding of what their issue is.
Q. Okay.

You brought with you certain exhibits. First of all, we've marked Exhibit 1 and 2. You brought those, right?

A. Yes, I did.

Q. And then we have a blowup of Exhibit 2 behind you. Do you see that?

A. Yes.

Q. And then you also brought some components with you, right?

A. Yes, I did.

Q. Would you maybe just be so kind to just explain to us all here what these exhibits pertain to and how you intend to use them to explain electronic throttle control systems on the Toyota vehicles and various aspects of the linked system and the linkless system?

A. Okay. So, what I'd like to do is to explain starting with mechanical throttle.

Q. I'm just going to let you go on.

A. Okay. So, everybody, what I'd like to do is discuss and share how

the electronic throttle control system works, but where it originated, the iterations of the electronic throttle control system, which would be from the link style to the linkless style, as well as the different sensing systems that we utilize. Also after explaining how the systems operate, I would like the opportunity to talk about how the different fail-safe systems work.

So, with that --

Q. I guess what we can do is this. Do we want to mark these?

MR. GALVIN: I wasn't going to mark them. I just thought I'd use them. But if you want to mark them, we'll just maintain custody of them, and you can put a picture of them on to the deposition.

MR. ROBINSON: Why don't we give -- Vince, maybe we'll put exhibit numbers on them. We'll start with number 3, and then that way you can maintain them.

- - -

(Whereupon, Deposition Exhibit Landis-3, Accelerator pedal, was marked for identification.)

- - -

MR. PANISH: Put it all together and you have a car.

MR. ROBINSON: This is called Show and Tell.

THE WITNESS: So, if it's all right to begin Show and Tell.

BY MR. ROBINSON:

Q. Go right ahead.

A. So, it's important, of course, to first recognize that the accelerator pedal, which --

MR. GALVIN: Is Exhibit Number 3.

THE WITNESS: -- is Exhibit Number 3. And this is an accelerator pedal for our mechanical system in the --

BY MR. ROBINSON:

Q. What's a mechanical system for the jury?

A. Well, a mechanical system could be one of several things. For some of us in here when we learned to drive, when you stepped on the gas pedal or the accelerator pedal, there was mechanical linkage that went over to the carburetor and mechanically opened it. Through time, that changed to a situation where you use coating cable, which is a cable that has an outer sheath.

MR. ROBINSON: We'll call that exhibit number 4.

- - -

(Whereupon, Deposition Exhibit Landis-4, cable, was marked for identification.)

- - -

THE WITNESS: This cable, which was Exhibit Number 4, is connected to the throttle mechanically. And to put the pieces together, you have the pedal, which is going to move like this (indicating). The pedal, in turn, will pull on this cable.

The cable, in turn, is attached to the throttle.

- - -

(Whereupon, Deposition Exhibit Landis-5, Corolla throttle, was marked for identification.)

- - -

BY MR. ROBINSON:

Q. To Exhibit Number 5, which is the throttle, right?

A. That's correct. And in this case, this is a Corolla throttle. And so physical movement of the accelerator pedal results in the throttle opening.

Q. Why don't you point to that black piece of the throttle. What is that called?

A. I would typically call it the throttle drum or the throttle cam. And this drum on this vehicle has a place for two cables. In this case, one cable is coming to the throttle. The other cable on this vehicle I believe would go to the automatic transmission to provide

information about the throttle position.

Q. Is there a throttle plate?

A. Yes. This is the throttle plate, which is this brass colored plate.

Q. It's inside, we can see it inside, right?

A. Right.

Q. And then that opens up and closes down, right?

A. Yes. It opens up and closes down to control the amount of air entering into the engine. It does not directly control fuel. It controls the amount of air that enters the engine.

Q. So, how does the fuel enter the engine?

A. The fuel enters the engine through the fuel injectors.

So, on this Corolla throttle, which is a very simple throttle, in addition to the normal throttle plate, there's other items that were part of it. The main other item that you can see is this piece that's on the top.

Q. What is that?
A. This is the idle air control valve.
Q. What's the purpose of that valve?
A. The purpose of this valve is -- the load on an engine varies in proportion to certain items. You put the air conditioning on, the engine is under more load. You turn the power steering all the way to full lock, it's under more load. You put all the electrical accessories on, it's under full load or more load. To compensate for that, since the throttle is controlled mechanically, so it would be closed at idle, the engine might stall, for example, if you turn the air conditioning on. So, as we know, when air conditioning gets turned on, the idle speed typically will come up. And it comes up by virtue of bypassing air around the actual throttle plate. Since the vehicle cannot control what the driver is doing with the throttle plate, there's a passageway that goes around the

throttle plate. There's an opening in front of the throttle plate and an opening behind the throttle plate. And if I could equate this to like the top of a Parmesan cheese shaker that has various size openings, it will open and close to vary the amount of air that is bypassed around the throttle.

Also on the throttle we have a throttle position sensor. This is utilized by the computer for numerous things. It's involved in the computation of how much fuel. It's involved in letting the computer know that the vehicle is at idle. And that's in generalities.

Q. So, these components, 3, 4 and 5, were used on the Toyota vehicles in the '90s, right?

A. That's correct. And just to give an idea of the variation in components, again, Exhibit Number 5 being a Corolla, if you were to look at a 2001 ES 300, for example, this is the same component, the throttle. You can see

some additional componentry --

- - -

(Whereupon, Deposition Exhibit Landis-6, 2001 Lexus ES 300 throttle, was marked for identification.)

- - -

BY MR. ROBINSON:

Q. That's going to be Exhibit Number 6.

A. Exhibit Number 6. Thank you, Mr. Galvin.

So, it includes some other parts that you would typically see such as this dashpot. Dashpot is a device that when the car returns to idle, it controls how suddenly the throttle closes.

Q. That's from a Lexus vehicle?

A. This is from a Lexus vehicle.

Q. And does that have electronic throttle or is that still --

A. No. This is still mechanical throttle.

Q. -- mechanical throttle?
A. Yeah. I wanted to demonstrate the variety, kind of the basic Corolla to the ES, which still has similar functionality. It's got an idle speed control valve as well, but it actually utilized two separate throttles as controlled by the throttle drum. In addition, it has an additional throttle between the two separate throttles to help with a system that manages the torque the engine can produce.
Q. By the way, the throttle position sensor on that older Corolla, was it a resistive contact sensor?
A. Yes, it is a resistive.
Q. Why don't you explain to the jury what a resistive contact sensor is?
A. Well, a resistive contact sensor basically is a sensor that changes resistance values, which equates to changes in voltage values, as it's rotated, and that change occurs through physical contact between two elements. And we are all familiar with such a

sensor, typically a light adjustment dimmer or a radio volume control valve operates in that fashion, the resistive style.

Q. Were there dual sensors on that vehicle?

A. Yes, there's dual sensors -- I'm sorry. With regards to a mechanical?

Q. Yes.

A. No. There's a single sensing.

Q. Would that same be true for that Lexus ES system?

A. Yes, that would be the same. Yes.

Q. Can we now go to the -- or do you want to now go to the link system or do you want to do something else?

A. Before I go to the link system, I wanted to point out that when you had a mechanical system and you want to implement cruise control, for example, you have some sort of actuator such as this actuator here.

MR. ROBINSON: Let's mark

that as Exhibit Number 7, the actuator.

- - -

(Whereupon, Deposition Exhibit Landis-7, Actuator, was marked for identification.)

- - -

BY MR. ROBINSON:

Q. Why don't you define what an actuator is for the record, please.

A. In this instance, an actuator is an electrical or mechanical device that can control something else. So, if you were to turn on cruise control, rather than the system that's normally controlling the throttle controlling cruise control, there's an extra piece, in this case, this actuator, which uses an electric motor, I believe -- some actuators also use vacuum for cruise control -- that will pull a different cable, different cable than what we discussed before, that is acting upon the throttle drum.

Q. So, when you have the cruise

control system in use, you're not -- you're bypassing the pedal, right?

A. In this type of system, yes. So, somebody might even sense that the pedal is dropping down or something is going on because something else -- something separate mechanically is taking and holding the throttle.

With that, I would like to move to the link-style throttle system.

Q. For the record, the electronic throttle control systems that are -- have been developed and designed and manufactured by Toyota are both linked, and then more recently, linkless, right?

A. That's correct.

Q. Why don't you show us what you've brought with you for the linked system. By the way, do any of the vehicles that are being made by Toyota in 2010 still have the link system on them?

A. I'm sorry. Not that are sold in the United States.

Q. Where are they sold?

A. I don't -- I can't speak for the rest of the world.

Q. Go right ahead.

MR. ROBINSON: I think that would be 8, is that right, Vince?

MR. GALVIN: Yes.

- - -

(Whereupon, Deposition Exhibit Landis-8, throttle assembly, was marked for identification.)

- - -

BY MR. ROBINSON:

Q. So, you are going to show us Exhibit Number 8.

A. Number 8.

Q. What is Number 8?

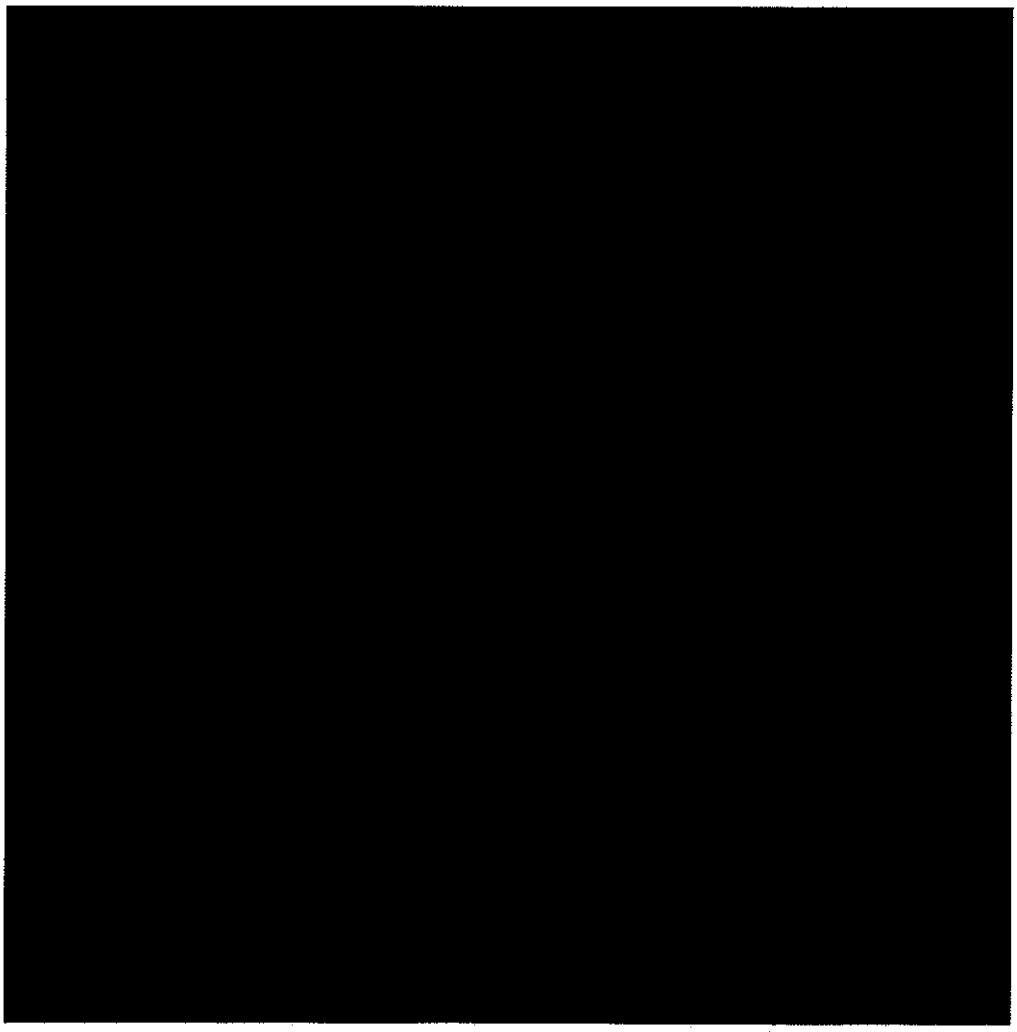
A. 8 is a throttle assembly. I believe this came from an LS 400. I could be mistaken.

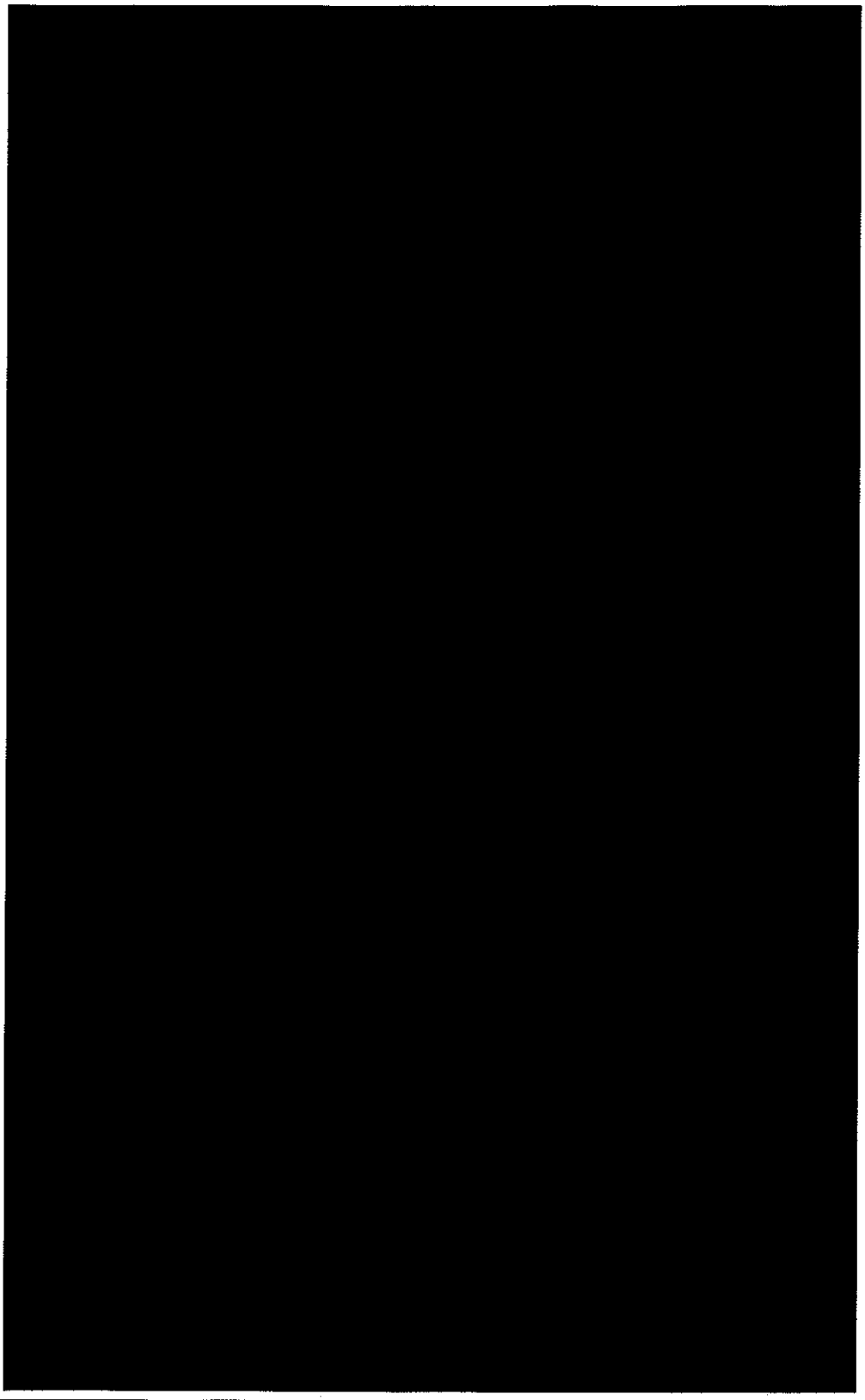
Q. Do you know what year it came from?

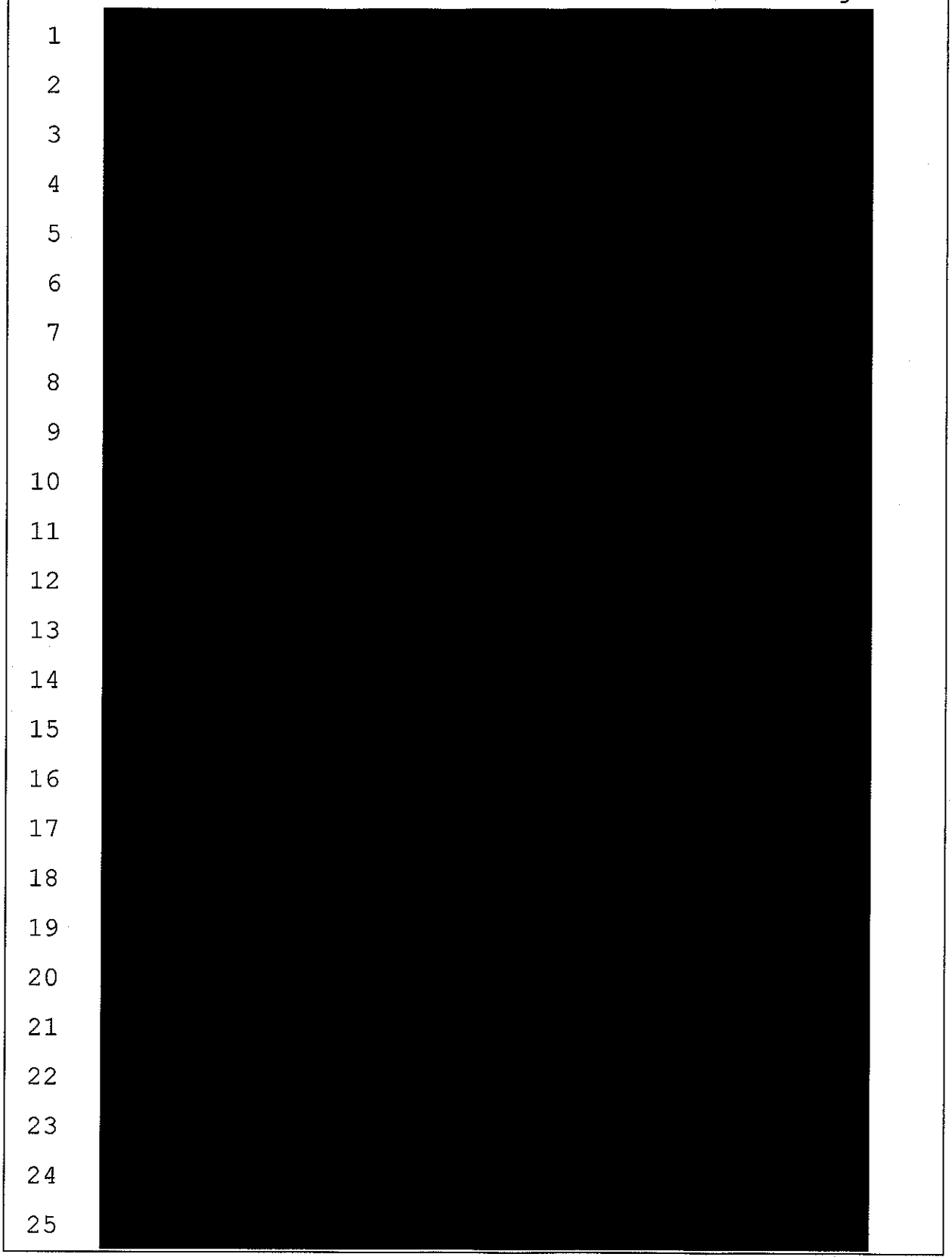
A. I believe this came from 1998. Or, no, I take that back. 2000 possibly.

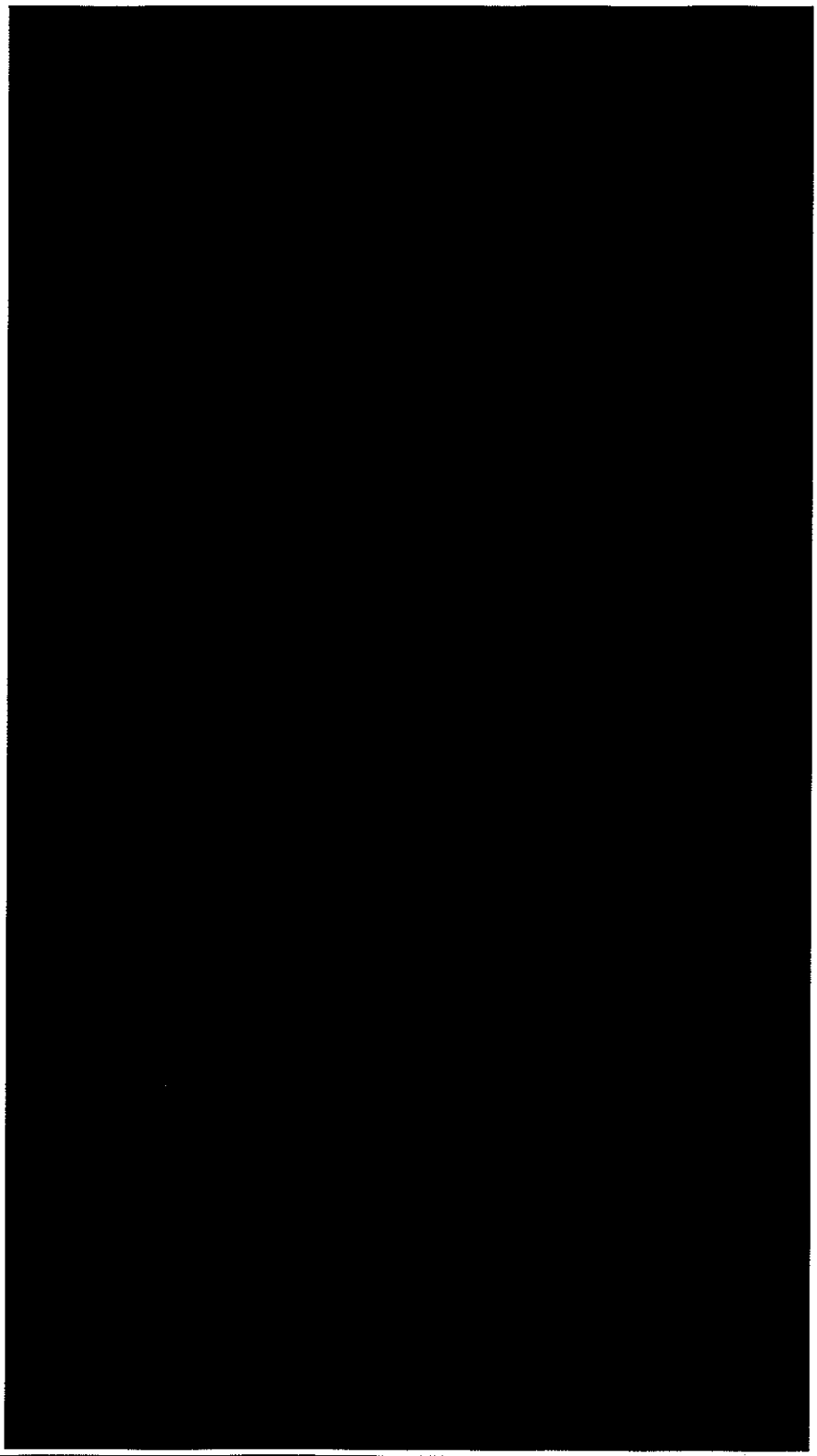
Q. Okay.
A. But I can't be certain.
This is a link-style throttle. Again, this is the equivalent with respect to metering air through a throttle plate, as you see -- as you saw before. However, the system that opens and closes this throttle -- well, what closes it is still a spring, as it was here, but what opens the throttle is actually a motor. And the way this motor knows how much to open the throttle plate is from two sensors that are positioned over on the other side of the throttle, other side from the motor.
Q. Those are called throttle position sensors?
A. No. These are called accelerator pedal position sensors.
Q. I'm sorry. You're talking about the accelerator pedal position sensors.
A. It's a little bit confusing because in the link style, you maintain having a pedal, a mechanical pedal much

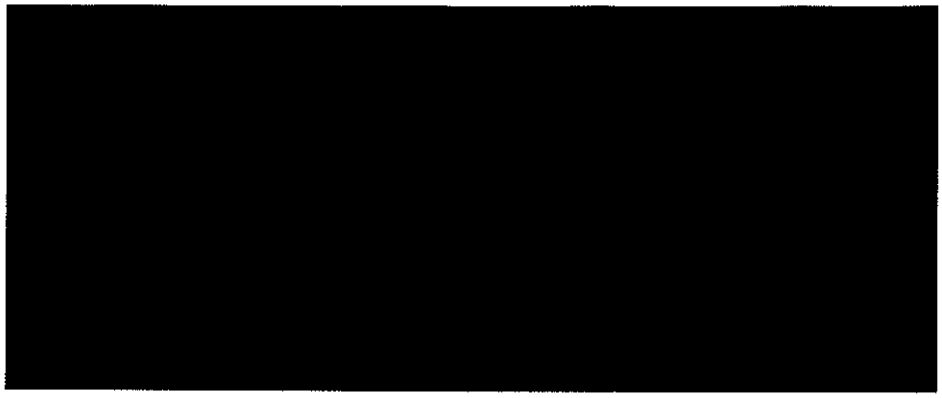
like you did before, and you maintain having a cable much like you did before, but this is not controlling the opening and closing of the throttle, rather, the two accelerator pedal position sensors that are located over here as this moves. So, as this would be moving, the motor would be driving it to some open position.











MR. ROBINSON: Can we mark that. I don't know what number it is. Is it number 9?

MR. GALVIN: 9.

THE WITNESS: 9, yes.

- - -

(Whereupon, Deposition Exhibit Landis-9, Accelerator pedal with Hall effect sensors, was marked for identification.)

- - -

BY MR. ROBINSON:

Q. That is called --

What is that called?

A. That is an accelerator pedal that utilizes Hall effect sensors in it.

Q. As I understand it, there are two sensors?

A. There's two sensors inside

of it.

Q. And in terms of those sensors, they actually give voltage signals back to the electronic control module, right?

A. They're doing the same thing that the two sensors on the side of this link style are doing.

Q. And just so I understand, and for the jury, the link style is called link because there is a mechanical link to the pedal that the driver puts his foot on for the accelerator, right?

A. The accelerator pedal position sensors are linked to the pedal as opposed to being integrated into the pedal.

Q. They're mechanically linked, right, with a wire, right?

A. That's right.

Q. With a physical wire as opposed to an electronic connection, right?

A. Right. That's my understanding. I have never asked

somebody specifically, nor have I ever read what the definition of how they chose the terms link and linkless. It just seems to make sense.

Q. I haven't read it either, but it makes sense.

A. It makes sense, yes.

Q. Now, in terms of the linkless system, do you have a different throttle body for the linkless system?

A. Yes, I do.

Q. Can we look at that?

A. Certainly.

Q. Go ahead. You brought a lot here.

A. Actually, I don't need this. If you wanted to see yet an additional mechanical one, but we'll keep it in the box.

Q. Maybe Larry would like to see it.

THE WITNESS: So, yeah, actually, mark that one first.

- - -

(Whereupon, Deposition

Exhibit Landis-10, 2002 to 2003, linkless style throttle, was marked for identification.)

- - -

BY MR. ROBINSON:

Q. So, what are we marking?

A. What we're marking is a linkless style throttle.

Q. From what vehicle would that be?

A. I believe this is a Camry throttle.

Q. Would this be the 2007 through 2010?

A. No, it would not.

Q. This is the 2002 to 2006 Camry throttle, right?

A. Actually, within the 2002 to 2006, there was, I think -- no, there might be two different iterations of sensor. Yes.

2002 and 2003, this would be representative.

Q. Okay.

A. Beyond that, it would change

from this to something that looks like this, which would have been present from 2004 to current. (Indicating.)

MR. GALVIN: Exhibit 11.

THE WITNESS: Exhibit 11.

- - -

(Whereupon, Deposition Exhibit Landis-11, 2004 to current, linkless style throttle, was marked for identification.)

- - -

BY MR. ROBINSON:

Q. What's the difference between the Camry throttle body for 2002 to 2003 versus the 2004 onward?

A. On this style, you could see the motor on one side with a two pin connection for the motor. We haven't spoken about the motor much.

Q. No.

A. But that's the power feed for the motor.

Over on this side --

Q. What was the purpose of the motor?

A. The motor's purpose is to open the throttle. It can also close the throttle as well.

Q. This is a linked --

A. Linkless.

Q. This is linkless. So, it's like a servo, this motor?

A. It's a motor. It's controlled by a duty cycle, and there's a gearbox in here that, in turn, opens the throttle. What makes this different, getting back to your question, and this is what's shown on the chart here for 2002 and 2003, is that the sensor mechanism looks much like the sensor mechanism we had before, although this is a single sensor, this is a double sensor, it's a resistive sensor on the throttle shaft.

MR. PITRE: I apologize. You are referring to "this" a lot. Can you just for the record indicate what exhibit you're referring to.

THE WITNESS: I apologize.

This is Exhibit Number 10.

BY MR. ROBINSON:

Q. Once again, what is Exhibit number 10? Is that the 2002 to 2003 Camry throttle body?

A. I believe it to be. I'm not positive. To me it appears to be the V6 Camry.

Q. Number 11 is the 2004 onward throttle body, right?

A. I'm not positive.

MR. GALVIN: Just for clarification, I don't think he said onward, suggesting it's the same as all those others, so...

THE WITNESS: I'm just saying the sensor type changed after 2003 to become a Hall effect sensor.

BY MR. ROBINSON:

Q. When you say "sensor," are we talking about the throttle position sensor?

A. Throttle position sensor.

Q. We're not talking about the

pedal position sensors, right?

A. They're going through changes that may be timely with this or they may be in a different sequence.

Q. So, let me just sort of, for the record --

A. Yes.

Q. -- clarify something.

So, at some point, the throttle control sensors on various Toyota and Lexus vehicles went through a change from the resistive-type sensors to the Hall effect sensors, right?

A. That's correct.

Q. And the resistive sensors, you've said, are contact sensors, where the Hall effect sensors are non contact sensors, right?

A. That's correct.

Q. And so what you're saying is that Exhibit Number 11 would have a Hall effect sensor, a throttle control sensor on it?

A. Yes.

Q. What you're also saying is

that the pedal sensors did not necessarily change to Hall effect at the same time that the throttle sensors changed to Hall effect, right, depending on the vehicle?

A. Depending on the vehicle, it could be the same time or it could be at a different time.

Q. We have Exhibit Number 1, which we'll come back to, but maybe we can try and identify that. And then I have this Canadian chart that might even help even more.

But for now, let me ask this. Did you bring any other components with you?

A. Yes. I've got this computer, and I have an additional computer. And when I refer to "computer," I'm referring to ECU.

Q. Let me go back a second, and I don't know the numbers anymore, but do you know who -- which companies made, for example, the last Camry throttle body that we saw, which I think was Exhibit

Number 11? Who made Exhibit Number 11, which is the --

A. Now, 11, I don't know that it's a Camry. As I look at it, I don't believe it's a Camry. It's just a representative linkless throttle body that uses Hall effect sensors.

Q. So, if you don't know which vehicle it was on, would it be fair to say you don't know who made -- which vendor made it?

A. No. That's not accurate because I know who made it.

Q. Who made it?

A. This is made -- well, it's going to be made by Aisin. The overall throttle body is made by Aisin. The black portion that you see is made by Denso and incorporated by Aisin.

Q. Okay, now, is it made by Aisin in Japan?

A. In Japan, yes.

Q. And is it made by Denso in Japan, the other black part that's on there?

A. Yes.
Q. Do me a favor. Let's just go back to --
So, that's Exhibit Number 11?
A. This is Exhibit Number 11, yes.
Q. Let's go to Exhibit Number 10. Pick that one --
A. This is 8.
MR. GALVIN: 10 is that one.
BY MR. ROBINSON:
Q. Let's go to number 10. Who made what portions of Exhibit Number 10?
A. With this, I just see Aisin's name on it.
Q. You see Aisin on the throttle box, right?
A. I see Aisin also on the black plastic portions.
Q. What is the black plastic portion again?
A. Well, this is the cover for the motor on this side, and then this is the throttle position sensor, and it also

is labeled Aisin.

Q. Do you know why, for example, on this throttle body it was totally made by Aisin, and on Exhibit Number 11, part of that throttle body, at least the sensor part, was made by Denso?

A. No, I don't. And I don't know, even though this says Aisin everywhere, that there isn't some part made by Denso on it.

MR. GALVIN: Just for clarification, I think the record will show that in answering the question, he identified where Aisin was printed on the part. I don't think he was representing that one was made by one or the other.

MR. ROBINSON: I'm not going to hold him. I'm trying to learn here.

BY MR. ROBINSON:

Q. But basically is it true that some of these throttle bodies and sensors may have been made in the U.S. as

well?

A. It's possible.

Q. Is there Denso plants --

Is there a Denso plant or more than one Denso plant in the U.S., to your knowledge?

A. I --

MR. GALVIN: If you don't know, just say you don't know.

THE WITNESS: I don't know.

BY MR. ROBINSON:

Q. Well, you worked on a Denso case, right?

A. I worked on a Denso case that involved -- the patent case?

Q. Yes.

A. Yeah, that involved a navigation system.

Q. Did you go to some Denso location to go meet or look at any evidence in that case?

A. No.

Q. Well, did you learn where Denso was located?

A. Not with respect to any

offices here in the United States. It involved a navigation system that was installed and manufactured in Japan.

Q. Let's go through each of the exhibits. I'd like to see who made which parts. If there's a name on these parts, it'd would be nice to know.

A. I'd be happy to help you.

Q. If you could go through them. So, you went through, I think, 11 and 10. Now maybe go back down.

A. Okay. Well, of the key componentry, this is a resistive style pedal.

Q. That's the older pedal?

A. Older style pedal.

Q. When you say "resistive style pedal," would that be -- I can't remember if that's from the linked or the linkless.

A. No. This would be of the linkless because the link style would have this sensor incorporated into the throttle drum.

Q. So, that's a resistive --

so, that has resistive sensors, which means that it did not have a Hall effect sensor, right?

A. Yes. So, on this, it points out that the accelerator pedal position sensor piece says Aisin on it, which would lead me to believe that Aisin produces the sensor. There is nothing on the pedal itself that I could see that points to who manufactures the mechanical portion of it.

Q. Let me ask you this.

A. Watch the grease on it.

Q. Okay. Good. What exhibit is this?

A. Where the springs are.

Q. What exhibit is this? Is there a number on it?

MR. GALVIN: Look on the pedal.

THE WITNESS: No. That one doesn't seem to be marked yet.

MR. ROBINSON: Why don't we mark this one.

THE WITNESS: Yeah, why

don't we.

MR. GALVIN: So, this will be 12.

- - -

(Whereupon, Deposition Exhibit Landis-12, Linkless pedal with resistive sensor marked Aisin, was marked for identification.)

- - -

BY MR. ROBINSON:

Q. For the record, since I didn't have it marked, why don't you describe this linkless pedal again, and I think you've said it's a resistive type pedal?

A. This particular linkless pedal, accelerator pedal is -- has a resistive sensor.

MR. GALVIN: And it's Exhibit 12.

THE WITNESS: And it's Exhibit 12, and it contains a resistive sensor on it that is marked with Aisin's name. And the

mechanical portion of this may or may not be made in conjunction with this.

BY MR. ROBINSON:

Q. Do you know where that was made?

A. I don't.

Q. Is there a company called Franklin Products that makes throttle bodies in the U.S. for Toyota?

A. I've never heard that name used.

Q. Go ahead. Let's just go quickly through these, and we'll try to --

A. Pedal number 9 --

Q. Yes.

A. -- the pedal that uses Hall effect sensors, this happens to be a CTS pedal.

Q. CTS is a company where, in Ohio?

A. Somewhere here in the United States.

Q. Do you know where it is?

A. I don't.
Q. So, this appears to be a pedal made in the U.S.?
A. That's correct.
Q. And do you know what vehicle that came from?
A. I don't. I don't. But obviously it's one of the vehicles that's built in North America that utilizes a CTS pedal.
Q. Well, let me ask it this way. So, does that have Hall effect sensors on it?
A. It does.
Q. So that that would be probably from one of the more recently made vehicles, right?
A. That's correct.
Q. Because the --
We'll go through the chart later, but from Exhibit Number 2, it appears that the Hall effect non contact sensors were made more recently than the original resistive sensors, right?
A. That's correct.

Q. Okay. Let's keep going. We'll go quickly through the next one.

A. Can I help you just a little bit here.

Q. Yes.

A. The CTS pedal, while it's a Hall effect, is only used on vehicles that are -- some of the vehicles that are produced in North America. So, if you have a Japanese-produced vehicle that's only produced in Japan, like a 4Runner, CTS is not utilized.

Q. By the way, was there a recall on CTS pedals?

A. There was a recall that involved some CTS pedals.

Q. Did that have to do with -- What did that have to do with?

A. That had to do with, in some rare conditions, the pedal might stick or be slow to return.

Q. Did they put a shim on those pedals?

A. They did a number of things.

We, depending on the vehicle, trimmed the pedal to provide -- excuse me. I'm sorry. I apologize.

With regards to the sticking, there was a metal reinforcement bar that was added to the pedal.

Q. Is that called a shim, same thing?

A. Well, we refer to it as a metal reinforcement bar.

Q. Okay.

MR. GALVIN: Precision cut.

THE WITNESS: It's precision cut, precision sized. It's a select fit piece of metal that is inserted into the pedal in a particular spot to prevent the sticking from occurring.

BY MR. ROBINSON:

Q. Now, I read some document from Europe that said that, at least reported in Europe, that the sticking pedal could lead to unintended acceleration?

A. As far as I know, in the

United States, we have not seen a case of unintended acceleration with a sticky pedal.

Q. Go ahead.

A. And so on vehicles that don't have a CTS pedal that is Hall effect style, I know that they're manufactured by Denso. Denso is the other pedal supplier.

Q. Are they made by Denso in Japan?

A. Whether they're made by Denso in Japan or Denso somewhere else, I don't know.

Q. What is the difference between the Denso pedals and the CTS pedals?

A. Physically, they're different. Operationally, they're the same. But the way the friction mechanism and the way the Hall effect sensor is configured inside is different between the Denso pedal and the CTS pedal.

Q. What were the physical differences?

A. The way the magnets and the sensor, as well as the friction portion, is just designed differently. I don't have the documents with me to show you.

Q. Which vehicles had the Denso Hall effect sensor pedals, and which vehicles had the CTS Hall effect sensor pedals?

A. Off the top of my head, I can't be certain, but I can give you a general idea.

Q. Sure.

A. So, again, any vehicle that was produced in Japan is going to have a Denso Hall effect pedal if it's a Hall effect style vehicle. In the United States, some vehicles produced here used a Denso pedal. Those vehicles included -- the Tacoma had a Denso pedal, even though it was produced here. Some Camrys have a Denso pedal, even though they were produced here. However, other Camrys and the Avalon, and I want to say the Tundra and the Sienna -- actually, I would want to verify. But essentially many of the

vehicles produced in North America used a CTS pedal.

Q. Now, the Denso pedal is a Hall effect pedal, right?

A. As well in this time frame, yes.

Q. But the one you're holding is a CTS pedal?

A. That's correct.

Q. Okay.

How many chips are on that pedal, the CTS pedal?

A. I don't know the details.

Q. Are there more than one chips?

A. I don't know how the sensor configuration is in terms of chip-wise.

Q. Well, for example, there are two sensor signals, right?

A. That's right.

Q. Do you know whether there's one -- they go to one chip or whether there's two chips?

A. I don't know if there's one chip, two chips, six chips and how

they're configured.

Q. Do you know if there are, for example, on the Denso pedal, if there are -- strike that -- on the Denso Hall effect pedal if there are more than one chips that are tied to the sensors?

A. Chip can be a very broad word where you have one component part that inside is divided up or whether or not it's a separate physical pieces, and I don't know.

Q. Who at Toyota would know the answer to these questions regarding the chips?

A. I don't know.

Q. Would Mr. Miyazaki?

A. Quite possibly.

Q. Who at Denso might know?

A. I don't know the name of any of the engineers.

Q. Who at CTS might know?

A. Also I don't know the names of any of the folks at CTS.

Q. Let me ask you this. On the -- no. I have the same kind of questions

for the sensors -- strike that.

There are Hall effect sensors utilized today on Toyota and Lexus vehicles for the throttle control, right?

A. That's correct.

Q. Okay.

Do you know if there's one chip on those sensors or multiple chip on those sensors?

A. No. I don't know how the sensing -- the different sensors are configured. I do know that they're separate sensors.

Q. But if you wanted to know whether it's one chip that's actually servicing both sensors or you have multiple chips, who would be the person at Toyota we'd want to go to and talk to about that?

A. I don't know for certain.

Q. Would Mr. Kimura know that?

A. Mr. Kimura is a person that I talk to who can provide information to Japan, and then they will track down the

pertinent engineer.

Q. He's sort of a conduit?

A. He's a conduit, that's right.

Q. So, he might not know these things, but he has contacts in Japan that can get information?

A. Typically that's the case.

Q. He might help us with drafting our interrogs, right?

MR. GALVIN: I don't think so.

THE WITNESS: I'm trying to be nice.

MR. GALVIN: You guys are smart. You can draft your own.

MR. ROBINSON: We only want him for two days.

THE WITNESS: Mr. Miyazaki would be the person I would ask.

BY MR. ROBINSON:

Q. Let me ask you this.

Do you know who makes the chips?

A. No, I do not.

Q. Who would know that?
A. Again, somebody at TMC, who is involved in the --
Q. Does Toyota make their own chips?
A. I don't know.
Q. Do you know if they use a company called Fujitsu?
A. Fujitsu Ten is utilized -- manufactures some of the ECUs that we use.
Q. Do you know if they -- Fujitsu makes some of the ECMs that control the electronic throttle control system?
A. Fujitsu Ten makes some of the ECUs that contain the software that controls the electronic throttle control systems. That's correct. I'm not sure whether Fujitsu Ten manufactures any ECUs, though, that are used in the United States for that purpose.
Q. Who makes the ECUs that are used in the United States to control the throttle control system?

A. The two that I'm aware of are Delphi and Denso.

Q. Is that Denso in Japan that makes them?

A. Again, I'm not certain whether they have manufacturing facilities here in the United States.

Q. And Delphi is in Michigan?

A. Delphi is somewhere in the United States.

Q. Who would be the person -- strike that.

Do you know any of the names of the people at Delphi that would be so involved?

A. No, I do not.

Q. Same question for Denso?

A. Same answer.

Q. And you don't know really if these components are made by Denso in the U.S. versus Denso in Japan, right?

A. That's correct. I'm not certain what manufacturing capability those companies have in the United States.

MR. ROBINSON: I don't think he's going to know this, but I'll ask.

BY MR. ROBINSON:

Q. What vehicles get the Fujitsu 10 and the Denso and the Delphi ECUs?

A. Well, again, my understanding, and I could be wrong, is that in the United States, Fujitsu Ten is not one of its suppliers, but they are a supplier for other markets.

With regards to Delphi, the only vehicle I'm familiar with that uses a Delphi ECU is the Corolla, but others may as well.

Q. In fact, the Corolla ECU was just recalled; right?

A. That's correct.

Q. What about the Matrix, wasn't the Matrix also recalled?

A. Yes. To Toyota, the Matrix is actually called the Corolla Matrix.

Q. And, frankly, that recall was about a 1.1 million vehicles, and it

was just announced a couple of days ago, right?

A. That's correct.

Q. So, Delphi made those ECUs, right?

A. Yes, they did.

Q. And as I understand it, there were some possible solder cracks or breaks in those Delphi made ECUs?

A. What the results of the recall is is something I don't know about at the moment.

Q. Well, let me ask you this. Do you know if when the new -- strike that.

The recall was to replace the electronic control module, right?

A. That's correct.

Q. On the Corolla's and Matrixes, right?

A. That's correct.

Q. Do you know if when they replaced these electronic control modules they're going to replace the electronic control modules with software that

includes the brake override?
A. I don't know the details.
Q. Well, you know that they're adding brake override to the 2011 ECUs, right?
A. Yes, they are.
Q. And they added brake override to various vehicles that have the linkless Hall effect sensors?
A. That's correct.
Q. And they've been doing that since about January or February of 2010, right?
A. That's correct.
Q. As part of the floor mat and pedal recalls, right?
A. That's correct.
Q. Now, do you know that -- strike that.
Would you expect that from everything you've learned that Toyota would be adding brake override into the new ECMs that are being put into the Corolla or Matrix?
MR. GALVIN: Hold on a

second. What he expects, I have a problem with because he's not the BOS guy.

BY MR. ROBINSON:

Q. What do you know about that?

A. I don't know anything about that.

Q. So, would you agree that Toyota is sort of slowly -- strike that. If --

MR. GALVIN: No, he's not going to agree to that.

MR. ROBINSON: How do you know?

MR. GALVIN: That's beyond any of the questions, and it's argumentative.

MR. ROBINSON: I know. Let's just do it in a nice way with a smile.

BY MR. ROBINSON:

Q. If I'm correct that the 1.1 million vehicles that just got recalled with the brake override -- strike that.

If the 1.1 million vehicles

that just got recalled, the Corollas and the Matrixes have a new ECM that has the brake override system, and if the Hall effect sensor linkless vehicles that are part of the pedal and floor mat recall are being reflashed with new software that includes the brake override system, wouldn't you agree that Toyota is slowly recalling as many vehicles as they can with brake override, correct?

MR. GALVIN: Objection. I'm going to object to that on the grounds that it's an incomplete hypothetical, and it assumes facts not in evidence. This witness has already explained what he knows and doesn't know about BOS -- hold on a second -- and he's here to talk about categories 11 and 12. And that Corolla recall that just happened falls way outside of that. I agree to let him talk about subject matters, but I think that subject matter is really beyond what he's here to talk

about, and I think it's also sort of argumentative.

MR. ROBINSON: Well, I'm going to ask it a different way.

BY MR. ROBINSON:

Q. You're here to talk about the electronic throttle control system, right?

MR. GALVIN: A general description.

MR. ROBINSON: That's okay.

BY MR. ROBINSON:

Q. Right?

A. Yes, a general description.

Q. Part of the electronic throttle control system is the engine control module, right?

A. A portion of the software that's in the engine control module is used for the throttle control system.

Q. And the recall that involved floor mats and pedals included a reflash of the software that relates to the electronic throttle control that's in that ECU, correct?

A. Yes, that's correct.
Q. So, if, in fact, in this Corolla and Matrix recall Toyota added a brake override system that relates to the electronic control system, that would be something that you would be here to talk about, right?
MR. GALVIN: No.
THE WITNESS: I don't even understand. But I'm here to discuss how the electronic throttle control system works.
BY MR. ROBINSON:
Q. Well, but part of the electronic throttle control system includes the ECM, right?
A. It includes a portion of the ECM.
MR. GALVIN: Mark, I don't want to interrupt, but there are multiple witnesses that --
MR. ROBINSON: You have other witnesses can give us these answers?
MR. GALVIN: There are going

to be witnesses on the BOS, foundational information on the BOS, as I've talked about. There will be additional witnesses on category 12 that he's here to talk about. He can't address what you're asking. First of all, you're asking a substantive question, and it goes well beyond the foundational stuff.

MR. ROBINSON: That's okay. I'll come back. I'll come back. I'm allowed to inquire into his knowledge about it.

BY MR. ROBINSON:

Q. But is it fair to say that you don't know whether or not the brake override software was included in the new ECMs that are part of the Corolla Matrix recall?

A. That's correct. I was busy last week.

Q. What were you doing last week?

A. These two. (Indicating Mr.

Galvin and Ms. Gilford).

Q. That's true. They didn't tell you about this?

So, what else do you have with us back there?

A. Well, I think the one component --

Q. We haven't talked about the ECM. So, let's talk about the computer.

A. Okay.

MR. ROBINSON: What number are we on, Vince?

MR. GALVIN: 13, I think.

- - -

(Whereupon, Deposition Exhibit Landis-13, Electronic control module, manufactured by Denso, was marked for identification.)

- - -

BY MR. ROBINSON:

Q. Let's go to Exhibit 13.

A. 13 is an ECU, electronic control module, that's manufactured by Denso. This particular style is the

style that we utilize when the engine control module is located in the engine compartment. It's one of the styles.

Q. Now, is that from a U.S. vehicle?

A. I'm not certain what vehicle this came out of.

Q. But to your knowledge, did Denso make the ECUs or ECMs that control electronic throttle in vehicles that were sold in the U.S.?

A. If your question is about being sold here as opposed to manufactured here, yes, Denso supplied ECUs for vehicles that were sold in this country.

Q. And the only other company that you're aware of that sold ECUs in this country was Delphi?

A. The only other company I'm aware of that manufactured ECUs for vehicles that were sold in this country is Delphi. I could be wrong, and there could be some F Ten ones or Fujitsu Ten, but I've just never seen them.

Q. Well, why don't you tell us what you were going to teach us about this exhibit, number 13.

A. So, number 13 is just the electronic control unit that would be mounted in the engine compartment in this case. This engine control module or, excuse me, electronic control module would have software in it that is utilized for throttle systems, for transmission, for fuel management, and quite possibly many other activities --

Q. Steering?

A. Steering. If you have electric power steering, that's a separate ECU, as you pointed out. There should be -- there could be some functionality related to steering such as when you turn the steering all the way to full lock, there's a pressure switch that might give it some information so that it could -- the idle speed.

Q. Is there a date of manufacture of that exhibit on the exhibit?

A. Yes, there is.
Q. What's that date?
A. I'm not sure how to read it, but somewhere on here is a date code.
Q. Do you know what -- approximately what year vehicle that comes from?
A. No, I don't.
Q. Let me ask you this. You said in terms of controlling the electric throttle control system, there are two CPUs?
A. That's correct.
Q. And is this Exhibit 13 from a linkless --
A. Yes, it is.
Q. -- throttle? Why don't you do this. Why don't you use Exhibit Number 2, the blowup, to explain in your own words how the linkless system works and how this CPU controls the pedal sensor information and receives the pedal sensor information and receives the throttle sensor information, and maybe you can also summarize the four

fail-safes so that we can move through that, if you can.

A. Yes, I can, and just before I do, I'd like to mark this ECU, which is another ECU.

- - -

(Whereupon, Deposition Exhibit Landis-14, LS 400 electronic control module, link style, was marked for identification.)

- - -

BY MR. ROBINSON:

Q. Is that an older one or newer one?

A. This is an older one.

Q. What's that from?

A. This is from an LS 400.

Q. Approximately what year?

A. Around 2000.

Q. So, that would be a linked?

A. This would be a link style, yes.

Q. A link style.

Quickly maybe you can tell

us the difference between the ECU on the link style from the 2000 LS version versus the linkless ECM. By the way, we're using terms ECU, ECM. We've been using them pretty interchangeably, haven't we?

A. We have.

Q. But really what you're saying is that the electronic control unit or electronic control module that you're talking about controls more than the electronic throttle control system?

A. Yes.

Q. As you've said. But -- okay, why don't you tell us the difference between the two.

A. Well, you can see a number of physical differences both in the construction and the connector style, and that's what I wanted to point out. However, this one, I can open up to talk about the different CPUs. That's why I wanted to introduce it.

Q. Go right ahead.

A. So, the central processing

units in the case of this one, you can see three.

Q. This is the 2000 --

A. LS.

Q. -- linked version?

A. That's correct. That's what I believe it to be. I could be wrong. These black squares are the CPUs. They're basically separate computers.

Q. Do you know who made the CPUs on the 2000 LS?

A. It has a maker's mark on it. I don't recognize it.

Q. Do you know who makes --

A. It's got a big D. It might be Denso. I'm not sure.

Q. Okay.

Do you know who --

Without looking at that exhibit, do you know who typically makes these CPUs?

A. Yes, Denso. Or the CPU itself?

Q. Yes.

A. No, I'm not certain.

Q. Could it be -- well, who else could it be?
A. Oh, I don't know.
Q. You have no idea?
A. No, I don't.
Q. If I wanted to find that out, how would I get that information?
A. Talk to the folks that you'll be deposing shortly.
Q. Go right ahead.
A. So, my point was just going to be to give you an idea of what these individual processors look like which serve as individual computers. In this case, there's three of them. I'm not sure which two are dedicated to the throttle system, but two of them have the software that controls the throttle system. The way they function or the way you asked me to describe over here is that essentially one serves as the main CPU or the control CPU, and one serves as a sub CPU or a monitor CPU. Both of these CPUs receive the signals from the accelerator pedal position sensor. Both

of these CPUs receive the signals back from the throttle position sensor.

They also share information amongst themselves. There's a connection that's called a watchdog, watchdog pulse that goes between the two CPUs to make sure that the CPUs are functioning together, but it's also making sure that each computation is the same amongst each individual CPU which is running its own software for the throttle control system.

So, for example, from the accelerator pedal -- actually, the accelerator pedal or the throttle control system is operating off the main sensor in the accelerator pedal. There are two sensors, but one is being utilized to run the vehicle. That information is being compared by both CPUs to the signal that's coming from the second sensor from the accelerator pedal position sensor. These CPUs make sure that the primary signal is in agreement with the secondary signal. So, what we would call VPA1, the voltage from the pedal assembly one --

Q. So, is one signal considered higher than -- above the other? In other words, VPA1 is above VPA2?

A. I believe the voltage curve for VPA2 is higher than VPA1. I don't recall. They have different voltage curves.

Q. As I understand it, the voltage, and we're talking pedal sensors now, the voltage on one of those, VPA1 or 2, has got a maximum voltage of 4.5 volts?

A. It could be. It would probably be based on a particular vehicle.

Q. And the maximum voltage on VPA2 would be 3.7 volts?

A. The offset of the voltages is 8/10th of a volt. So, in that particular instance, that would be correct.

Q. So, the idle voltage would be .8 volts versus 1.6 volts, right?

A. Potentially, that that would be consistent, but it would depend on the

vehicle.

Q. It might change a little bit by vehicle?

A. That's correct.

Q. But the voltage, the reference voltage that's coming from the ECM to these pedals is 5 volts, right?

A. That's correct. There's two separate 5 volt signals, one going to -- one in the accelerator pedal position sensors and one going to the other accelerator pedal position sensor.

Q. Do you know if they're -- for example, if the margin between the VPA1 and VPA2 changed from .8 volts, such as we just talked about, down to, say, .4 volts, if those CPUs can always read the difference? Can it?

A. Well, of course, it can read the difference. It is reading the voltage of the different sensors all the time. So, it would be reading VPA1 and VPA2, and it will be noting the difference between those two sensors at all times. So, if it changed from .8

volts to .4 volts, it would know that.

Q. Let me ask you this. Are the CPUs, those two CPUs -- and I take it there's two CPUs in this exhibit as well. What number is this one here?

A. 13.

Q. So on 13, there's two CPUs as well, right?

A. That's correct. Architecture of the board might be quite different though.

Q. But the principles are the same, right?

A. The basic principles are the same. However, as I mentioned before, the software is going to be different for different vehicles.

Q. Do you know what the differences in software are between Exhibit 13, and I guess it would be exhibit -- what number is that, 14?

A. This was 14. No, I don't know all the differences. However, I recognize that the tuning for each vehicle is dependent upon the engine and

the vehicle weight and the transmission choice and the fuel, things of that nature. So, because of that, the software is going to be different.

Q. Let's look at this exhibit, which I think is, what, 13, right here?

A. Yes, 13.

Q. So, there's two CPUs inside that ECM, right?

MR. GALVIN: Now, wait a minute, there's three, but are you talking about just the two that control --

BY MR. ROBINSON:

Q. That control the electronic throttle control system?

A. Yes. There will be two CPUs irrespective of any of the ECUs that have functionality for the electronic throttle control system.

Q. Okay.

Do you know if the software is the same that's running both those CPUs?

A. The same on both CPUs?

Q. Yes.

A. No, I don't know the details.

Q. So, there could be different software going to each one of those?

A. My understanding is they're the same. But whether there's some small difference because there's some functional difference between those CPUs, I don't know.

Q. Do you know if there's one chip that is communicating to these two CPUs?

A. I'm not aware of that.

Q. On that Exhibit 18 -- I'm sorry -- Exhibit 13, is it an 8 bit, 16 bit or 32 bit, if you know?

A. I don't know.

[redacted]

[redacted]

Q. Right.

A. And as part of the throttle control system, the mass airflow meter is utilized in one of the fail-safes or is utilized as part of the fail-safe, whereby the mass airflow meter measures the air that's entering into the throttle. The logic that's utilized to determine whether the throttle is stuck so that the throttle is not responding to the accelerator pedal input, the control processors will look at what the mass airflow sensor is saying. So, for example, the computers that -- the processors are saying that the throttle should be closed, but air is entering the engine, it will say that's a problem, the throttle is stuck.

In addition, it will look at the throttle position sensors, and for

this particular fail-safe, it would shut the fuel off to the engine, which is one of the places where the fuel injectors come in and why they're part of the system. If the throttle control system has a stuck throttle, the engine will be shut down basically by starving it of fuel.

Q. What might stick a throttle like that, carbon deposits or moisture or a crack in the throttle plate, things like that?

A. The things that I'm most used to is some sort of debris, somebody replaces the air filter element and some twig or something that was on top of the air filter element drops down into the intake system and can get stuck. But you do point out valid reasons such as carbon building up on the throttle shaft.

Q. Called Coking?

A. Coking could take place, or you could have a situation where there's some moisture that freezes or subsequent to an accident, there's some damage to

the intake track that gets in there. And in any of those cases, what will happen is, the system will detect it, and since it cannot close the throttle in this particular instance, it will shut the engine down. And again, the mass airflow sensor and the fuel injectors are part of that fail-safe.

Q. And in that hypothetical, would the throttle be in a different position than the pedal?

A. Different position than the pedal, that's right. That's part of it.

The throttle being a different position than the pedal, if it feels -- if the system detects that the throttle is not properly responding to the pedal, but when it takes power away from the throttle and the throttle closes and is in a closed position, then that's going to implement a different style of fail-safe, because then there's no reason to kill the engine essentially, to stall the engine.

Q. But anyway, this first one

you just mentioned, the fuel gets cut off or cut to the engine, right?

A. That's correct.

Q. And then basically the engine is going to stall, right?

A. That's correct.

Q. Let's go to the next. What's the next fail-safe?

A. Well, I think I'd like to go --

Q. Go ahead. Do what you want to do.

A. Get back to your questions from before.

Q. But that is the first fail-safe, really one of the first fail safes?

A. It's one of the --

Q. Strategies?

A. It's one of the strategies. Fail safes and strategies are somewhat different. The actual implemented fail-safe, there's four of them, and they're very easy to talk about.

Q. You had four strategies,

right? Now, why aren't there eight strategies?

A. Because four strategies -- well, first of all, I'm not the designer of the system. So --

Q. Who is the designer of the system?

A. That would be TMC.

Q. Who at TMC designed the system?

A. I don't know who individually designed the system, but I would point you towards one of the engineers who works on it.

Q. Who was the one that seems to know the most about this?

A. The one that I'm familiar with is Mr. Miyazaki. I'm not sure if he's the most familiar with it. But a question such as that, I would probably pose to him.

Q. Okay. Go ahead then. You were explaining.

A. So, what we also have here is the ignition coil and fuel injector.

And where that comes into play is one of the implementations of a fail-safe would be that on the throttle, as we discussed before, it has two separate sensors much like the accelerator pedal. If one or both of those sensors is providing erroneous information such as the sensor is open circuit, short-circuit, the difference between the sensors goes beyond some specified amount, the system will judge that the sensing system of the throttle cannot be relied upon. So, in that scenario, the throttle plate will be closed, and it will be closed by spring pressure. If it doesn't close by spring pressure and remains stuck open, we just discussed what will happen.

Q. Will that also stop fuel to the engine then?

A. No.

Q. Okay. What happens?

A. So, in this instance where one or both of the throttle sensors is judged to be malfunctioning, it will close the throttle. However, even with

the throttle closed, there's still some air that gets by it for normal idle.

By virtue of in this example where we have no issue with the accelerator pedal position sensors, let's assume they're functioning properly, the accelerator pedal is communicating information to the two separate CPUs that somebody wants to accelerate, the driver wants to accelerate, there's pedal depression. Even with the throttle plate closed, we can effect some form of acceleration or some form of speed change to assist the driver, say, in getting off the highway. And the way we do that is through the fuel injectors and ignition coils. Because this is a distributor-less ignition system, we can effect some increase in speed by advancing the ignition timing, which is controlled through the ignition coils, which are firing the spark plugs.

In addition, we can effect some engine speed increase by increasing the amount of fuel injected. It's not

significant, but it allows the driver the opportunity to get off the highway.

Q. Is this called limp-home mode?

A. This is a form of limp-home mode.

Q. So what it --

Does it get about 25 percent of the full throttle output?

A. No. That's incorrect. That's yet a different limp-home mode.

Q. That's a different one.

So, how would you define this limp-home mode?

A. I would define this limp-home mode as I'm glad they decided not to stall the engine and stop me right here. I'm glad that the design of it is such that it recognizes there's a problem with the throttle and has closed the throttle, but is utilizing other systems on the car to give me some ability to get off the highway.

Q. But that first one you talked about, the physical sticking of

the throttle, that shuts everything down, doesn't it?

A. Yes. Because if you can't control the amount of air you're metering, it could be a problem. I mean, my personal reference, and this is a fail-safe that's in all of our electronic throttle controls, when I was a kid, my parents had a car with a carburetor, and one of the motor mounts broke on it, and the engine tilted over, which caused the carburetor to go to full throttle. In this case, if it had electronic throttle control, it would have noticed that the throttle was open but my dad was not pushing on the gas pedal and shut the engine down. And in that case, the engine just raced. So, that's the difference.

Q. What other strategies -- or you said there were four strategies?

A. There's four strategies.

Q. That's two now.

A. That's two strategies. The other strategy, to get back to the one

that you're thinking about, is if one of the accelerator pedal position sensors is judged to be malfunctioning, again, it's being judged against the other accelerator pedal position sensor, plus open circuits, short circuits and some other criteria, if one of the sensors is deemed to be unreliable, the vehicle will operate off the other sensor.

And I should have pointed it out with the other fail safes. I'll point it out now. Any time any of these are implemented, the check engine light is coming on, there's diagnostic trouble codes that are being stored. If one of the sensors is still operating correctly, then as you push the pedal down, the amount of opening of the actual throttle is attenuated to be just 25 percent.

Q. This is the 25 percent of the wide open throttle?

A. Wide open throttle -- it's 25 percent of any aspect of the throttle. So, throughout the entire range of the pedal, whatever it used to be before, so,

half throttle would be 25 percent of what half throttle is.

Q. So, if you push it all the way down, the most you can get is 25 percent?

A. Roughly 25 percent.

Q. But if you push it maybe halfway down, you're going to get 25 percent of what you would have normally gotten --

A. That's correct.

Q. -- when you pushed it halfway down?

A. That's right.

Q. Okay. That's three.

A. That's the third one.

But also incorporated into that fail-safe which provides the most limp home, because you have this 25 percent throttle capability, during that fail-safe, if you touch the brake pedal, the vehicle will return back to idle. So, there's input from the brake pedal that just any application that results in the brake light coming on will return the

engine speed back to idle. That's part of this as well.

Q. So, this isn't really a brake override system, this is just another aspect of the fail-safe?

A. That's right.

Q. Okay.

And I know there was some information given to the government --

MR. ROBINSON: How are we doing on time.

THE VIDEOTAPE TECHNICIAN: One minute.

MR. ROBINSON: He's going to change the tape. I have a question for you. I want to keep this topic going.

THE WITNESS: But we'll break for him for a second.

THE VIDEOTAPE TECHNICIAN: The time is now 12:09 p.m., and we're off the record. This marks the end of Tape Number 2.

- - -

(Whereupon, a recess was

taken from 12:09 p.m. until 12:12 p.m.)

- - -

THE VIDEOTAPE TECHNICIAN: The time is now 12:12 p.m. We're back on the record. This marks the beginning of tape number 3.

BY MR. ROBINSON:

Q. Okay. So, what you're saying is that in this last example you gave that a diagnostic trouble code is set, and then what happens?

A. There's probably multiple diagnostic trouble codes that would be set. The check engine light would come on to inform the customer. The customer would immediately realize that they have significantly less power than they did before, since, as we discussed, maximum throttle is just 25 percent. And during that time, if they were to hit the brake pedal, the engine speed would return back to idle.

Q. Then that would really shut the vehicle down, right, it would coast?

A. Except that if they bring the throttle back up to the top and reapply throttle, they will get the same zero to 25 percent.

Q. So, they could coast to a stop if they wanted to?

A. They could more than coast to a stop. They could drive to a stop. They would drive to a stop.

Q. If they didn't put their foot back on the accelerator, they would coast to a stop?

A. If they didn't put their foot back on the accelerator, based on whatever speed that they were going, they could potentially coast to a stop.

Q. Would the brake work?

A. The brake would work, sure.

Q. Now, let me ask you this.

You don't consider this a brake override?

A. No.

Q. Why?

A. Because a number of reasons. One is that this is part of the fail-safe

logic while it's already in fail-safe. A customer would not expect the brake override system to operate such that if they're stepping on the gas or stepping on the brake, it automatically returned to idle. That would present, you know, issues of its own right. So, the brake override system itself has logic built into it such that it doesn't introduce additional drivability problems, which is what you would get if, oh, I'm, you know, stepping on the gas and all of a sudden my left foot touched the brake pedal, the car returns to idle, that could present issues in and of itself.

Q. How would the brake override system work?

A. There will be a witness to go further with respect to --

Q. From your knowledge?

A. So, the brake override system is looking for the order of pedals, brake and throttle. And so if you were to apply the brake first and then apply throttle, you do not have

brake override such that you can hold your car on a hill or take off from a start so that you don't roll back, something that the other system would not allow you to do because the minute you touch the brake, you keep returning to idle. In addition, it's looking for certain vehicle speed before it begins, and it's looking for a certain amount of deceleration, not just the brake light switch being activated, but, rather, a certain higher braking force than just, oh, they touched the brake pedal. There's other aspects to the logic as well.

Q. But I mean, have you really sat behind the wheel of a vehicle with the brake override system and put your foot on the brake pedal and put your foot on the accelerator and checked and examined how it worked?

A. Yes, I have.

Q. Tell me --

Tell us how it worked.

A. Well, the way the brake

override system would work is --

Q. This is the one that just was put in the Toyota vehicles, right?

A. Yes, that's correct.

Q. Go ahead.

A. I evaluated it to get a sense for it. And so if you were to hold the throttle in a particular position, once you've achieved a particular speed and apply the brake pedal forcefully, the throttle system will return back to idle. And if in that same circumstance you applied the throttle system from where your foot is and apply more throttle, it will resume the throttle that you had. So, you don't necessarily have to come back to idle and start all over again, which is part of the limp-home fail-safe system that I described when you have a single point failure with the accelerator pedal position sensor.

Q. Have you driven another car, I don't know if it would be a BMW or some other car, that has a Bosch type of brake override system?

A. I may have driven one. I haven't evaluated one.

Q. Do you know how the Bosch system works?

A. No, I don't.

Q. So, you've given us, what, three different fail-safe strategies so far?

A. Yes, I have.

Q. What's the fourth one?

A. You want a shot at it first?

Q. Well, I can give you what I think. I've wrote down some notes here.

A. No, that's all right.

Q. Basically -- well, go ahead. I'm not going to --

MR. GALVIN: It was a test.

THE WITNESS: It seems that sometimes when I start talking about it, you begin talking about it.

So, the final one would be if there was something wrong with both, and in the extremely unlikely likelihood that both

accelerator pedal position sensors were reading erroneously, then the system would look at that as not being able to judge how much the driver wants to accelerate or not accelerate, because at that point, you don't have any input from the driver. So, the fail-safe that is implemented for that is to return the engine to idle. And at idle, you can actually get off the side of the road as well. So, that's the fourth.

BY MR. ROBINSON:

Q. Is that a limp-home mode or not?

A. To me it's a limp-home mode. I don't know what the engineers that designed it specifically say. Limp-home is used --

Q. Who was --

Which engineers were involved in designing these four different strategies for the Toyota vehicles?

A. That would be the same engineers that we've discussed before to which if I wanted to understand something better, I might ask Mr. Miyazaki, but he might not be the definitively right person.

Q. What is the purpose of the fail-safe system in the electronic throttle control system?

A. The fail-safe system, there's two parts to this. There's one part, to identify any problem within the electronic throttle control system that might result in unwanted acceleration or deacceleration. Then the second part is to implement some strategy to provide the customer with as much drivability of their vehicle as you can based on the issue that is occurring.

Q. Let's suppose hypothetically that you had a floor mat that was wedged under the accelerator pedal or wedged on to the accelerator pedal and was actually activating the pedal more than the driver wanted. Could the driver step on the

brake and stop the vehicle nevertheless?
A. It's been my experience in our vehicles that, yes, you could stop the vehicle.
Q. We used the word fail-safe. How do you define the word "fail" or how did Toyota define the word "fail"?
A. Again, that would be something for the actual engineers --
Q. For example --
A. -- who were responsible.
Q. Excuse me.
Do you know whether the engineers hypothesized potential failures, you know, analyzed the problems that might occur to determine the risk and then try and develop these fail-safe strategies?
A. Yes, absolutely. There would be some sort of failure mode effects analysis done on the system.
Q. Have you seen any documents that relate to such failure mode effects analysis for this system?
A. Yes, I have.

Q. Where did you see that?
A. I saw some fault tree analysis which is based on failure mode and effects analysis in a presentation that was given to NHTSA a number of years ago.
Q. Do you have those documents?
A. I don't have those documents currently. I would have them back at my office.
Q. If I wanted to have Toyota produce those documents to me, how would I describe those?
A. A presentation that was provided to NHTSA that I believe is on NHTSA's website.
Q. What is a fault tree analysis? It's what I just talked about?
A. Yes, basically.
Q. Same thing as a failure mode and effect analysis?
A. I think they're considered to work in opposite directions, but they're designed to identify what can happen and how to implement some strategy

to prevent it from happening.

Q. Does Toyota use any unique language for their version of fault tree analysis or FMEA or do they use those terms?

A. They use those terms. They might use additional terms as well.

Q. What other additional terms?

A. There's another term that's escaping me right now related to design review of fault tree analysis.

Q. Is that called DCP and R?

A. No. That doesn't sound right. I wouldn't rely on him. I shouldn't say that. I am not familiar with that term. There could be other terminology. I'm used to the more standard FMEA and things of that nature.

Q. So, if I wanted to see the documents that show the different hypotheses that were tested out by Toyota, either TMC or TMS over the last 20 years for the electronic throttle control system, how would I describe the documents I'm seeking or the -- go ahead.

A. Documents --

Q. Go ahead.

A. Documents related to the failure mode analysis. I would point out, my general experience is documents created during the development phase of the vehicle may not be kept, and this would be during the development of the system. There could be documents that relate to changes that occurred in the system.

Q. You know, you talked about those two pedal sensors that communicate with the electronic control module?

A. Yes.

Q. And, you know, one was at the base of .8 volts, and then the other was 1.6 volts?

A. Typically something like that, yes.

Q. Do they go to one processor or do they go to both processors?

A. Both processors.

Q. Do both processors run the same set of code?

A. I think you asked that question before, and I said my belief is yes, but there could be some small difference in how it's configured.

Q. And do both processors operate on the same chip and --

A. No. They're separate chips.

Q. Let's see here.

A. I would encourage you to ask that of any additional witnesses as well. My understanding is they're two separate chips.

Q. Do you know what was involved in terms of the software change when Toyota reflashed the ECMs on the recalled floor mat pedal vehicles?

A. They added additional software that incorporates the brake override system that you described before.

Q. Do you know how much code was involved in that?

A. No, I don't. There will be an additional witness that will cover brake override system.

Q. Do you know whether the software went to both CPUs?
A. For the brake override system?
Q. Yes.
A. No, I don't know how it's incorporated.
MR. ROBINSON: How are we doing timewise here? Is this the time to take --
MR. PANISH: What time is it now, Vince?
MS. GILFORD: 12:25.
MR. ROBINSON: Do you want to take a short lunch break?
MR. GALVIN: That's fine.
MR. ROBINSON: Okay, good. We'll do that and --
MR. GALVIN: Let's go off the record.
THE VIDEOTAPE TECHNICIAN: The time is now 12:25 p.m. We're off the record.
- - -
(Whereupon, a luncheon

recess was taken from 12:25 p.m. until 1:16 p.m.)

- - -

THE VIDEOTAPE TECHNICIAN: The time is now 1:17 p.m., and we're back on the record.

- - -

(Whereupon, Deposition Exhibit Landis-15, Marked under separate confidential cover, was marked for identification.)

- - -

(Whereupon, Deposition Exhibit Landis-16, E-mail from Koji Sakakibara to Yoshioka, et al., with attachment, 9-1-09, TOY-MDLID0004113OT-0001 - TOY-MDLID00041130T-0003, was marked for identification.)

- - -

(Whereupon, Deposition Exhibit Landis-17, E-mail from George Marino to Gary E. Smith, 9-23-09, TOY-MDLID00075713, was marked for identification.)

- - -

(Whereupon, Deposition Exhibit Landis-18, Marked under separate confidential cover, was marked for identification.)

- - -

BY MR. ROBINSON:

Q. I'm going to mark -- these are all marked. So, this is Exhibit 15, 16, 17 and 18. I'm going to give you these. These are documents that I think we got from Toyota by way of production, I believe. Yes.

MR. GALVIN: Hold on one second. For 135646 and --

MR. ROBINSON: Tell me the number, what exhibit number?

MR. GALVIN: It doesn't say.

MR. ROBINSON: He has the numbers right there.

THE WITNESS: I have the exhibits.

MR. ROBINSON: Why don't you use the --

MR. GALVIN: So, for Exhibit

15 and Exhibit 18, I haven't read it yet, but I just notice it's designated highly confidential. So, if we're going to use this, it should be a separate sealed part of the transcript.

MR. ROBINSON: I agree.

Is that the second document?

MR. GALVIN: It's 15 and 18.

MR. PANISH: I don't have the exhibits.

- - -

(Whereupon, an off-the-record discussion was held.)

- - -

MR. GALVIN: So, whoever hasn't signed the protective order, I don't know if Larry signed on to it.

MR. ROBINSON: Will you stipulate -- Larry, you signed the protective order?

MR. WILLIS: I've signed it.

MR. ROBINSON: Brian, you

have signed it?

MR. PANISH: Yes.

MR. ROBINSON: And my whole staff has.

MR. GALVIN: Okay.

MS. GILFORD: Mark, can you get us the names of everybody who has signed, if you haven't done that already?

MR. ROBINSON: I will. Diana, will you remind me to get names of people that -- my whole committee signed.

- - -

(Whereupon, an off-the-record discussion was held.)

- - -

MR. PANISH: Which one is 73, the last two numbers?

MR. GALVIN: 15. That's 15.

- - -

(Whereupon, the following testimony related to Exhibit 15 was held under separate

confidential cover.)

- - -

BY MR. ROBINSON:

Q. Let's go to the next exhibit, which I think is Exhibit 16, and this is a memo from Koji.

MR. GALVIN: Can you make it bigger.

MR. ROBINSON: Can you blow it up? Good. Even bigger, if you can. Even a little wider.

MR. GALVIN: Some of us were born after you guys -- before you guys.

MR. ROBINSON: Make it big. There you go.

MR. GALVIN: That's better.

BY MR. ROBINSON:

Q. Okay.

So, I want to know if you know any of these names on this memo here. But look at the one in front of you. The first one, it says "Koji Sakakibara."

MR. GALVIN: If you want to get up so you can read it --

THE WITNESS: I can read

that easier than I can read this.

BY MR. ROBINSON:

Q. Do you know Koji Sakakibara?

A. No, I do not.

Q. Then do you know Yoshioka -- do you know a Mr. Yoshioka?

A. No, I do not know that name either.

Q. Okay.

Do you know a Shunsuke Noguchi?

A. I do not.

Q. Did you meet any of these people I mentioned, Koji or Yoshioka or Shunsuke Noguchi, when you were back at Toyota in August?

A. No, none of these names look familiar or sound familiar.

Q. Okay.

What about the next one, N. Kitsura, do you remember him?

A. No, no.

Q. Did you meet him?

A. I did not meet him. And I'm trying to make sure I understand what his

name actually is.

Q. Okay.

A. But it doesn't sound or look anything like any of the names that I had heard.

Q. Okay.

What about a Mr. Kako, K-A-K-O, do you remember meeting him?

A. No, I don't recall.

Q. Okay.

What about a Mr. Kato, K-A-T-O?

A. That also does not ring a bell.

Q. Okay.

What about Mr. Hirokazu Sakamoto?

A. No.

Q. What about Koji Takara?

A. No.

Q. What about Keiichi Fukushima?

A. Also, the name doesn't ring a bell at all.

Q. What about a Mr. Washino?

A. Also do not know the person.
Q. What about Mr. Yamaguchi?
A. Yamaguchi is a pretty common name. I don't recall meeting anybody with that name on my trip in August or no one that I could relate to.
Q. Before you sat here today, have you read any of the names I've mentioned in any documents of Toyota up to this date?
A. No.
Q. Okay, good.
And then what about, I guess it's Mr. Kawamu, R-Kawamu?
A. It doesn't ring a bell.
Q. What about Mr. Yamai?
A. Also doesn't ring a bell.
Q. What about Mr. Kanamori?
A. I don't recognize that name.
Q. What about Mr. S. Sakamat?
A. I don't recognize it.
Q. What about a guy with the first name, I guess the name is Yoji, Y-O-J-I?
A. None of these names sound

familiar at all to me.

Q. This memo went to all concerned staff, right?

A. That's what it says, yes.

Q. It says, "Thank you for your continued business. I am Sakakibara from TEC-2Gr."

What is TEC?

A. I'm not sure.

Q. Okay.

Was that a Toyota division, or something like that?

A. I don't know.

Q. It says, "The following information has been received from TMS-PQSS Public Affairs Group regarding the above (America ES350 article...addition #2)."

Would the article -- strike that.

The date of this e-mail is what, September 1st, 2009?

A. That's what it appears to be, Tuesday, the 1st of September.

Q. Wasn't that right after the

Saylor accident?

A. Yes.

Q. You investigated the Saylor accident, right?

A. Yes, I did.

Q. And was there any crush damage to the interior of the driver feet or leg compartment?

A. Yes, there was some damage.

Q. What did you see?

A. I'd have to review my photographs. I don't recall.

Q. So, you took photos?

A. I did.

Q. Did you take measurements?

A. I might have taken some measurements. I don't recall.

Q. Okay.

So, you have those, right, somewhere?

A. Yes.

Q. You kept notes --

MR. GALVIN: And just so -- this deposition of him is not on Saylor, so --

MR. ROBINSON: I'm getting off it. I just --

MR. GALVIN: Okay. Because I'm not going to allow him to answer any more questions on Saylor.

MR. ROBINSON: Okay. Go ahead.

BY MR. ROBINSON:

Q. Now, "During the floor mat sticking issue of 2007, TMS suggested that there would be a 'fail safe option similar to that used by other companies to prevent unintended acceleration.'"

Did I read that right?

A. Yes.

Q. And by "TMS," that's where you work, right, TMS, Toyota Motor Sales, right?

A. That's correct.

Q. So, do you remember someone at TMS back in 2007 suggesting that there should be a fail-safe option similar to that used by other companies to prevent unintended acceleration?

A. No, I was not part of any of this.

Q. "I remember being told by the accelerator pedal section Project... Manager at the time (Mr. M) that 'This kind of system will be investigated by Toyota, not by Body Engineering Division.'"

Is that the same Mr. M that you have been talking to us about?

A. I have no idea. I don't know who this Mr. M refers to.

Q. What is the name of the Mr. M that you met with back in Japan?

A. Mr. Miyazaki.

Q. And you said his first initial might be M?

A. It might be, but I'm sure there's lots of other people with the initial M, including yourself.

MR. PANISH: Objection. Move to strike as nonresponsive.

MR. ROBINSON: Move to strike.

BY MR. ROBINSON:

Q. I go with the flow.

A. I really don't know who this Mr. M is.

Q. "Also, that information concerning the sequential inclusion of a fail safe system would be given by Toyota to NHTSA when Toyota was invited in 2008."

Do you know if Toyota, either Toyota Motor Sales, where you are from, or Toyota Motor Corp., met with NHTSA sometime in 2008?

A. I don't know.

Q. Didn't you say earlier that you had a meeting with NHTSA in 2008?

A. No. What I mentioned was, I have a presentation from a meeting that took place with NHTSA, but I think it took place prior to that, and it was on the electronic throttle control system and its fail-safes.

Q. But you went to that meeting, right?

A. No, I did not.

Q. Oh, you just looked at a presentation?

A. That's correct.

Q. Okay.

Are you sure it wasn't this one here, the one they are talking about?

A. I'm not certain of it. It just seemed to me that the time frame of that presentation was back before 2008.

Q. Then it says, "Furthermore, taking into account" -- wait a minute. I want to go back up.

It says, "In light of the information that '2 minutes before the crash an occupant made a call to 911 stating that the accelerator pedal was stuck and the vehicle would not stop,' I think that Body Engineering Division should act proactively first (investigate issues such as whether the accelerator assembly structure is the cause, how to secure the floor mats, the timing for introducing shape improvements)."

Did you know that this statement was being made at that time?

A. No, I didn't.

Q. Then it says, "Furthermore, taking into account the circumstances that 'in this event a police officer and his entire family including his child died,' TMS-PQSS Public Affairs Group thinks that 'the NHTSA and the USA public already hold very harsh opinions in regards to Toyota.' (As I think you know, in some cases in the USA 'killing a police officer means the death penalty')."

You never knew that statement was being made before today?

A. Yes, that's correct, I did not.

Q. "In light of the above, it would not be an exaggeration to say that even more than the nuance of the information passed from Customer Quality Engineering Division External Relations Department to Body Engineering Division, 'the NHTSA is furious over Toyota's handling of things, including the previous Tacoma and ES issues.'"

What are the previous Tacoma and ES issues?

A. I don't know what they are referring to. The ES was involved in a recall regarding the all weather floor mats. That could be what the issue --

Q. In 2007?

A. In 2007, November of 2007.

I want to restate something. I had seen that quote before, "killing a police officer means the death penalty." I had seen some segment of that. I have never seen it in the context of this.

Q. Where did you see it?

A. And that I don't know. I don't know if --

Q. Was that in a memo?

A. I don't recall where it was.

Q. I mean a memo in your job working for TMS?

A. I don't know if it was a memo or somebody had picked it up and put it in the newspaper or whatever it was. But it does look familiar to me.

Q. I mean, you certainly were

reading it, you know, with an eye as your responsibility working for TMS, right?

A. I don't quite understand that.

Q. Well, what did you do when you read that?

A. I don't know what I did when I read that. I just remember reading that.

Q. Did you talk to anybody at the company?

A. I don't recall if I had spoken to somebody or not.

Q. Is it the kind of thing you might have spoken to somebody about at the company?

A. I might have, unless there was something that went along with it that had some explanation related to it. I just don't remember. But seeing that reminds me I have seen it before.

Q. Okay.

Then it says, "Considering the importance of this matter, any correspondence regarding" the "issue

including the reply from Body Engineering, no matter how small, must be sent to the Customer Quality Engineering Division General Manager and the Customer Quality Engineering Division External Relations Department General Manager. (If possible, please exchange information with the Customer Quality Engineering Division rather than replying to me.)"

Do you know, are these customer quality engineering divisions that they are referring to, is that in Toyota Motor Sales or is that at Toyota Motor Corp.?

A. There are people from that group that are stationed at Toyota Motor Sales. There are people from that group that are stationed in Japan at TMC.

Q. Right after that accident happened, did you participate in meetings --

A. Me, personally? No.

Q. -- at Toyota Motor Sales?

A. I have never participated in a meeting regarding anything that I can

think of related to this.

Q. How about once the accident happened, did some superior call a meeting at Toyota Motor Sales and say, you know, Mr. Landis, I want you to attend, we've got to do something here, and then start discussing what they are doing?

A. There very well could have been meetings like that. I did not attend such a meeting.

Q. By the way, going back to your choosing what meetings to go to when you were back in Japan earlier this month, you said that when they started talking about the brake override system, that you left that meeting and went off into electronic throttle control meeting?

A. That's correct.

Q. I mean, were there various meetings going on in various rooms?

A. These are discussions, not formal meetings, and, yes, there was basically some different engineers from TMC talking to both us engineers, as well

as the attorneys, about these different systems.

Q. Why did you walk away from the brake override meeting?

A. Because my interest is in the electronic throttle control system.

Q. Well, as you understood it, at least the reflashing of the electronic control unit for the electronic control system is part of that system, right?

A. That's correct.

Q. So, why wouldn't you want to know that?

MR. GALVIN: Well, I'm going to object as argumentative.

BY MR. ROBINSON:

Q. Will you explain why you left?

MR. GALVIN: Well, he's explained it three times now.

MR. ROBINSON: I haven't heard really why.

THE WITNESS: Well --

BY MR. ROBINSON:

Q. Go ahead.

A. Just my choice was to listen more about the actual electronic throttle control system.

Q. Why?

A. Because I have an interest in the electronic throttle control system, and I wanted to learn more about it.

Q. Did you consider the brake override change to be a safety item?

A. Did I consider it to be a safety item? No. I considered it to be a customer confidence item.

Q. Is that sort of the language that you've been given by Toyota to use for the brake override?

A. Toyota hasn't given me any language with respect to that.

Q. Where did you come up with that word "confidence"?

A. Because that's what it is about. It is about giving a customer extra confidence.

Q. Did you read a document that said that, a Toyota document?

A. I imagine I've read Toyota documents that state that.

Q. Is that where you got the idea to use that word "confidence"?

A. I don't know if that's where I got the idea to use it or whether it's my own interpretation of it.

Q. So, in the hypothetical I gave you earlier where, for whatever reason, it could be a floor mat, it could be a pedal, it could be anything, a vehicle is accelerating and you have a brake override, you know, reflash that you can actually hit the brakes and stop the vehicle, wouldn't you agree that would also be a safety item in addition to confidence?

A. Well --

Q. Go ahead.

MR. GALVIN: Go ahead.

THE WITNESS: I would just step on the brake pedal.

BY MR. ROBINSON:

Q. And if you hit the brake pedal, you could bring the car to a stop,

right?

A. That's correct.

Q. And if you couldn't bring the car to a stop because you didn't have the brake override feature, then you could maybe crash the vehicle, right?

MR. GALVIN: Mark, I'm not going to -- he's not here to answer hypotheticals.

MR. ROBINSON: I'm just asking one question.

MR. GALVIN: Well, no.

MR. ROBINSON: I'll withdraw the question.

MR. GALVIN: It is not within the scope of the categories that he's talking about. You are asking hypothetical questions, asking for substantive opinion-type questions. I've let it go on for some period of time. I'm not going to let it persist forever. It is not part of the scope of these depos.

MR. ROBINSON: Well, I

disagree. I think that the electronic control module is part of the -- strike that.

BY MR. ROBINSON:

Q. Wouldn't you agree, sir, that the electronic control module, the components that control the electronic throttle control system, are part of that system?

A. Part of?

Q. The electronic control --

A. The software --

Q. -- the throttle control system.

A. The throttle control system software resides in certain CPUs in the ECU.

MR. GALVIN: Then let me just state for the record, the category, then, that relates to that is, "A general description of the testing done to confirm the performance of the ETCS system, including the evolution of the ETCS design and development and

testing." It doesn't include hypotheticals of crash situations. So, I'm not telling him he can't testify about what he's here to testify about. He's not going to testify about hypothetical crash situations or his investigation of a crash.

MR. ROBINSON: But my last question didn't really ask that.

BY MR. ROBINSON:

Q. I'm just asking you, isn't the brake override reflash part of the electronic throttle control system?

A. It ties into the electronic throttle control system. I don't know how the software resides relative to the electronic throttle control system.

Q. So it ties in there, right?

A. That's my belief.

Q. Let's go to the next exhibit, which is Number 16, or it actually is Number 17.

MR. GALVIN: 17.

MR. ROBINSON: Yeah.

BY MR. ROBINSON:

Q. Okay. Are you ready?

This is dated September 23rd, 2009. That's about three weeks after the last document, right?

A. Yes.

Q. That's, yeah, about 22 days after September 1st, right?

A. That's correct.

Q. 2009, right?

A. That's correct.

Q. So, who is George Morino?

A. George Morino is the national manager over the compliance group at TMS.

Q. And what is the compliance group at TMS? What do they do?

A. They are involved in working with implementing recalls and special service campaigns.

Q. Who is Bob Waltz?

A. Bob Waltz is George Morino's vice president.

Q. Who is -- Mr. Daly works in your office, right?

A. Mr. Daly works for Toyota Motor Sales, yes.

Q. And that last sentence in the first paragraph where it says, "This blindsided TMS and resulted in discussions with Mr. Daly and Yokoyama to change the policy regarding press releases on campaigns."

Mr. Daly works in the legal department, right?

A. Mr. Daly does not work in the legal department. Mr. Daly is a senior vice president of Toyota Motor Sales.

Q. And what about Mr. Yokoyama?

A. Yeah. Mr. Yokoyama, I don't know who that is.

Q. Okay.

Have you ever seen this document before?

A. I don't believe so. None of it looks familiar to me.

Q. Where it says, next sentence, second paragraph, first sentence, it says, "TMC on the other hand

will most likely not...budge from their position that there is no vehicle defect."

Did I read that right?

A. Yes.

Q. Have you ever seen this document before?

A. As I mentioned before, I don't believe so. I don't recognize any of this.

Q. Who is Bob Waltz?

A. Bob Waltz.

MR. GALVIN: You just asked him that.

BY MR. ROBINSON:

Q. Go ahead.

A. He is the vice president to which George Morino reports to.

Q. Who is Gary Smith?

A. Gary Smith is our corporate manager who Bob Waltz presides over.

Q. Do you see, going down to the last paragraph, it says, "However, it may be too late to formulate any vehicle-side 'remedy' (i.e. ECM logic,

hinged pedal, etc.) In time for the NHTSA meeting."

Did I read that right?

A. That's what it says.

Q. So, if you were, as an engineer, you are looking at a "vehicle-side 'remedy' (...ECM logic)," what does ECM logic refer to?

A. ECM logic refers to the software in the ECM.

Q. So, like a brake override software?

A. Brake override software would fall into that category.

Q. What does hinged pedal mean?

A. I don't know what hinged pedal means directly. It could be a pedal that's hinged in a different way such as a pedal that's hinged off the floor.

Q. Okay.

Let's go to the next exhibit, which is Number 18. And I understand this is subject to the same highly confidential protection that the

previous -- I think it was Exhibit 15 is under.

- - -

(Whereupon, the following testimony related to Exhibit 18 was held under separate confidential cover.)

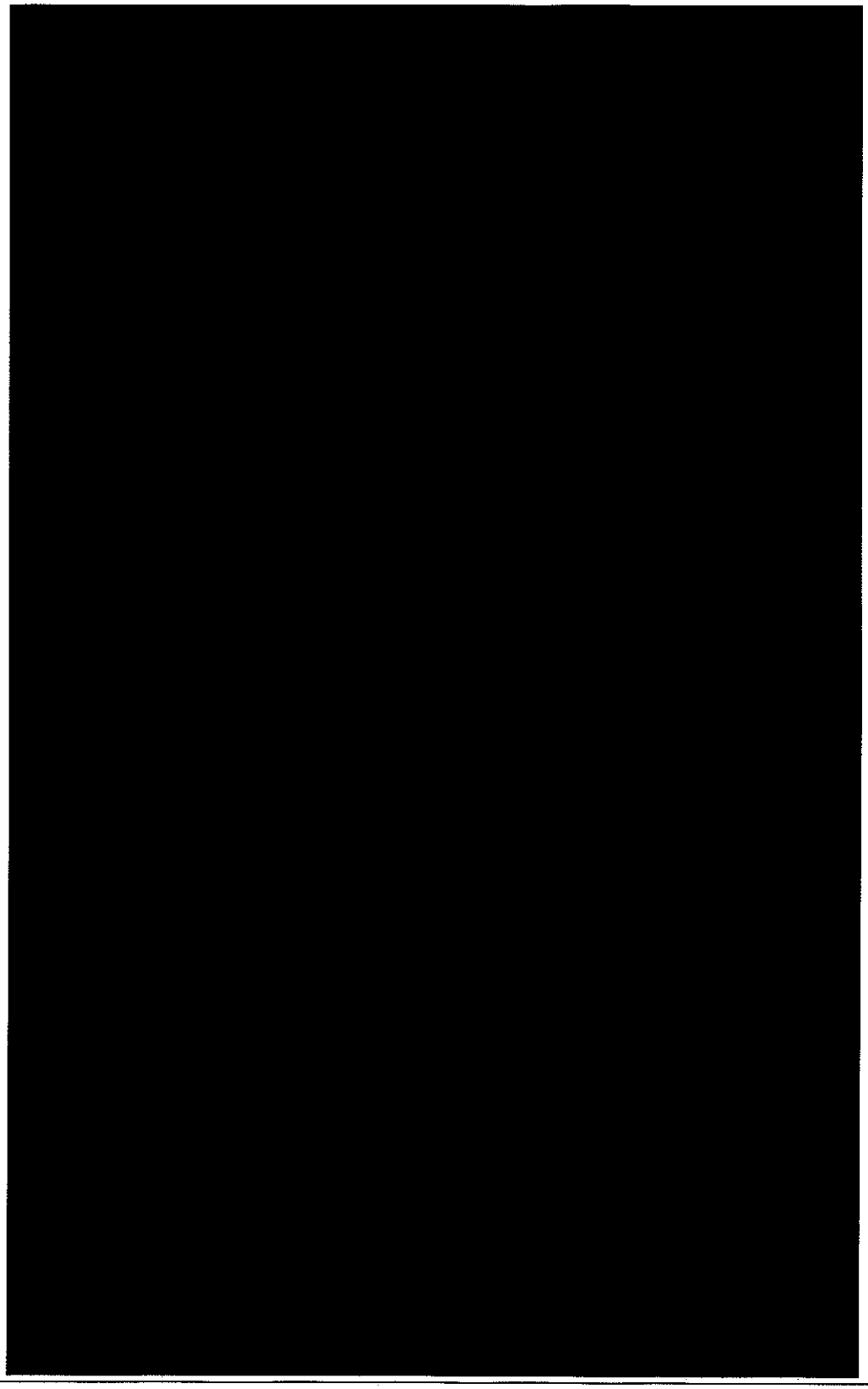
- - -

- - -

MR. ROBINSON: Can we go to Exhibit Number 21?

MR. GALVIN: While you are getting organized, he brought the notes that he was referring to, if you want to mark those.

[redacted]



Q. Is there any handwriting on this Exhibit Number 21 that's your handwriting?

A. I don't believe so.

Q. Are there any notes you made on that document?

A. No, not on it.

Q. Okay.

You are not claiming that these are the notes that you referred to earlier in the deposition, are you?

A. Yes, these are the notes I brought with me to my deposition.

Q. Okay. Thank you.

A. Maybe I should clarify. I mean, to me, notes means even something that I used such as something like a. To me, this is my go-to document for the throttle control system.

Q. Okay. Thank you.

MR. ROBINSON: Why don't we

go to the next exhibit, 21. Did you give them a copy? I'm sorry, 20. I meant it's Exhibit 20.

- - -

(Whereupon, Deposition Exhibit Landis-20, Toyota ETCS how it works - Search, 21 pages, was marked for identification.)

- - -

BY MR. GALVIN:

Q. You might want to also look at Exhibit Number 1 also. Is this 1?

A. Yes, it is.

Q. If we can sort of compare Exhibit 1 with the third to last page in that PowerPoint.

For the record, this Exhibit Number 20 we got off the Toyota Canada website. Do you see that at the front of the document there?

A. Where am I looking to see?

Q. Well, we have a -- the first page.

A. Oh. This one that's "Toyota Canada Inc. presentation to Standing

Committee on Transport"? Is that what you are saying?

Q. The first one.

A. The first one.

Q. Let me look. I can't look. Let me see. It is tab 9. Do you see that?

A. Oh, tab 9. Okay.

Q. Yeah.

A. Okay.

[redacted]

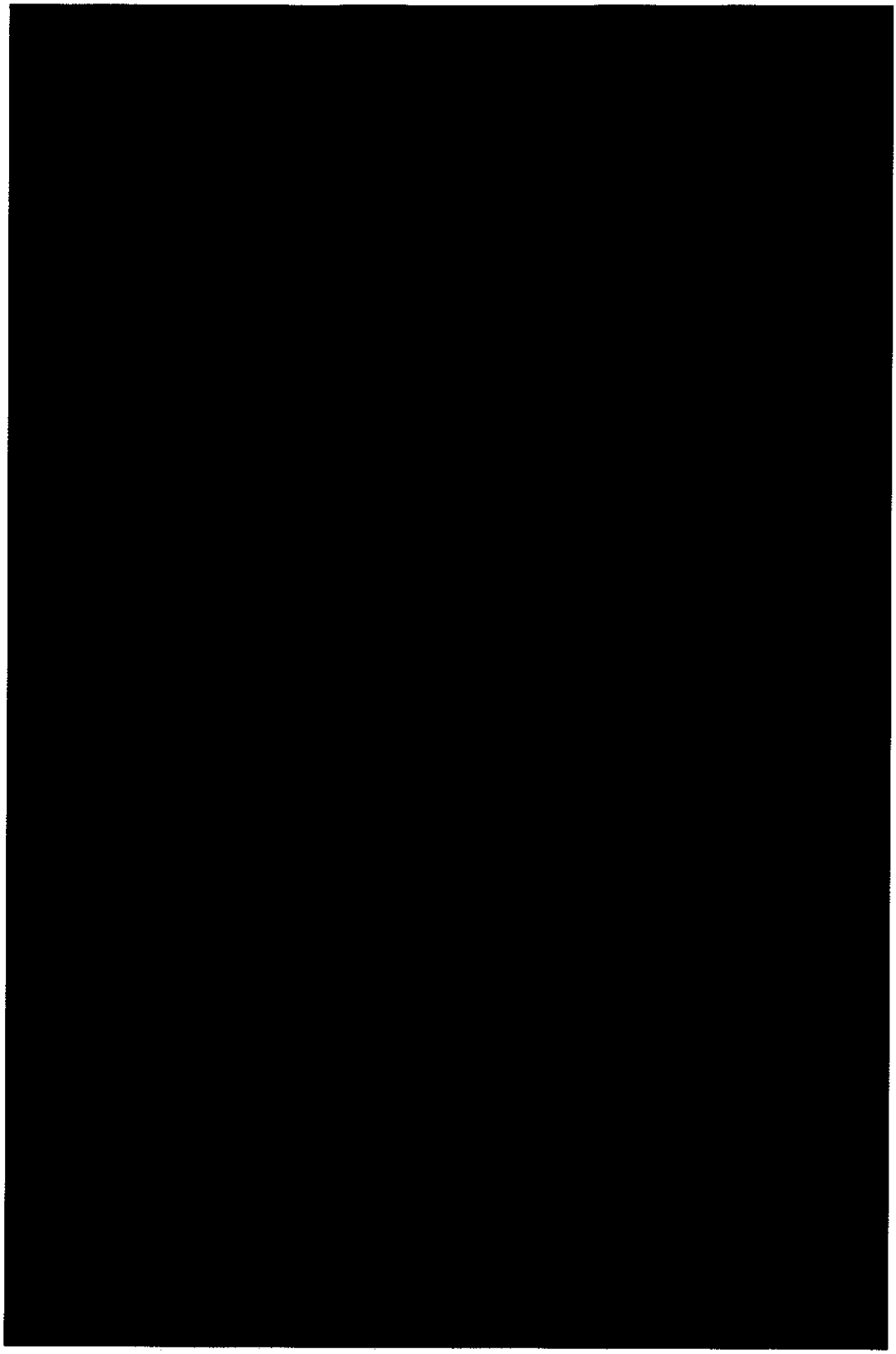
[redacted]

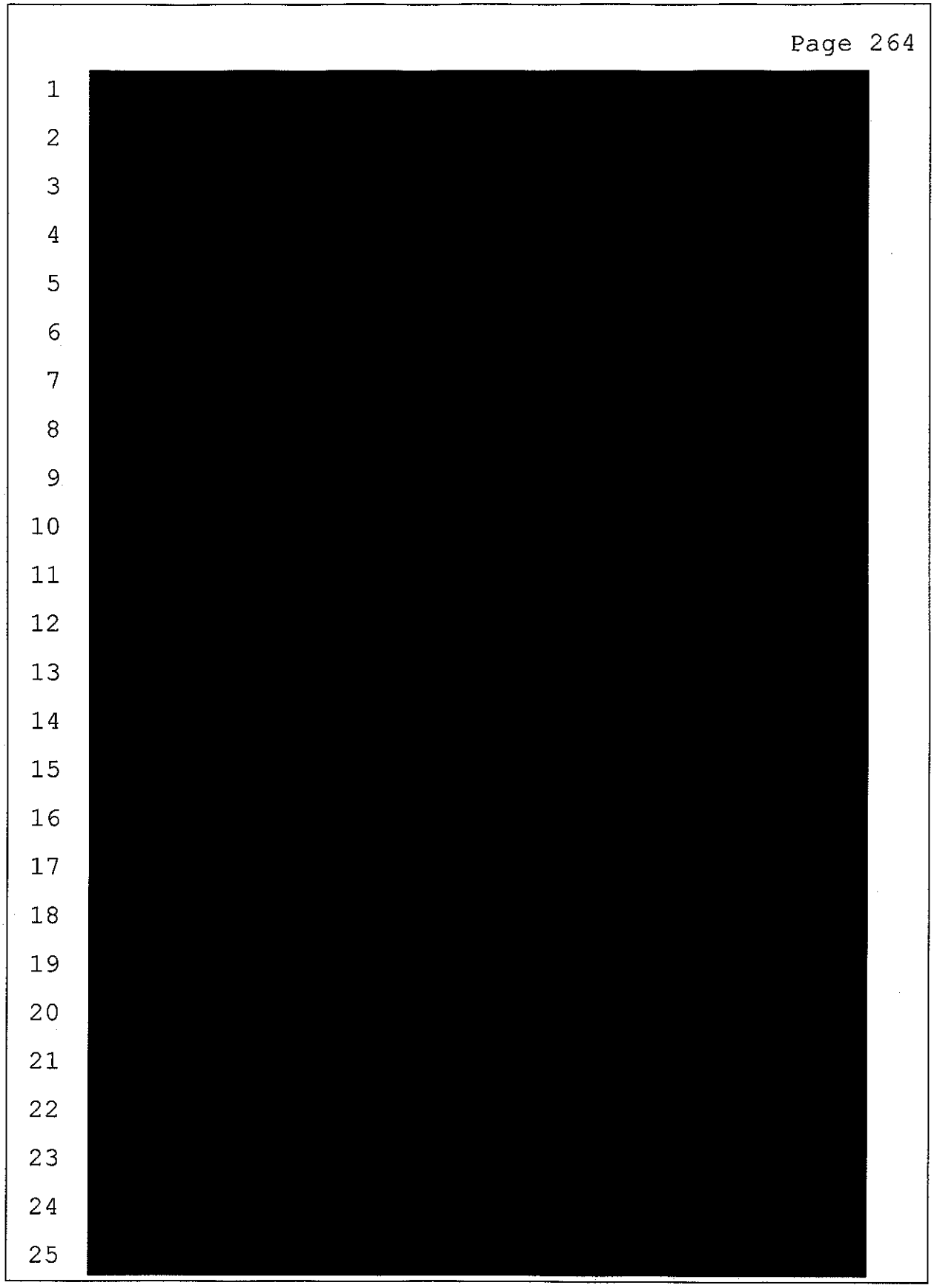
Q. Okay.

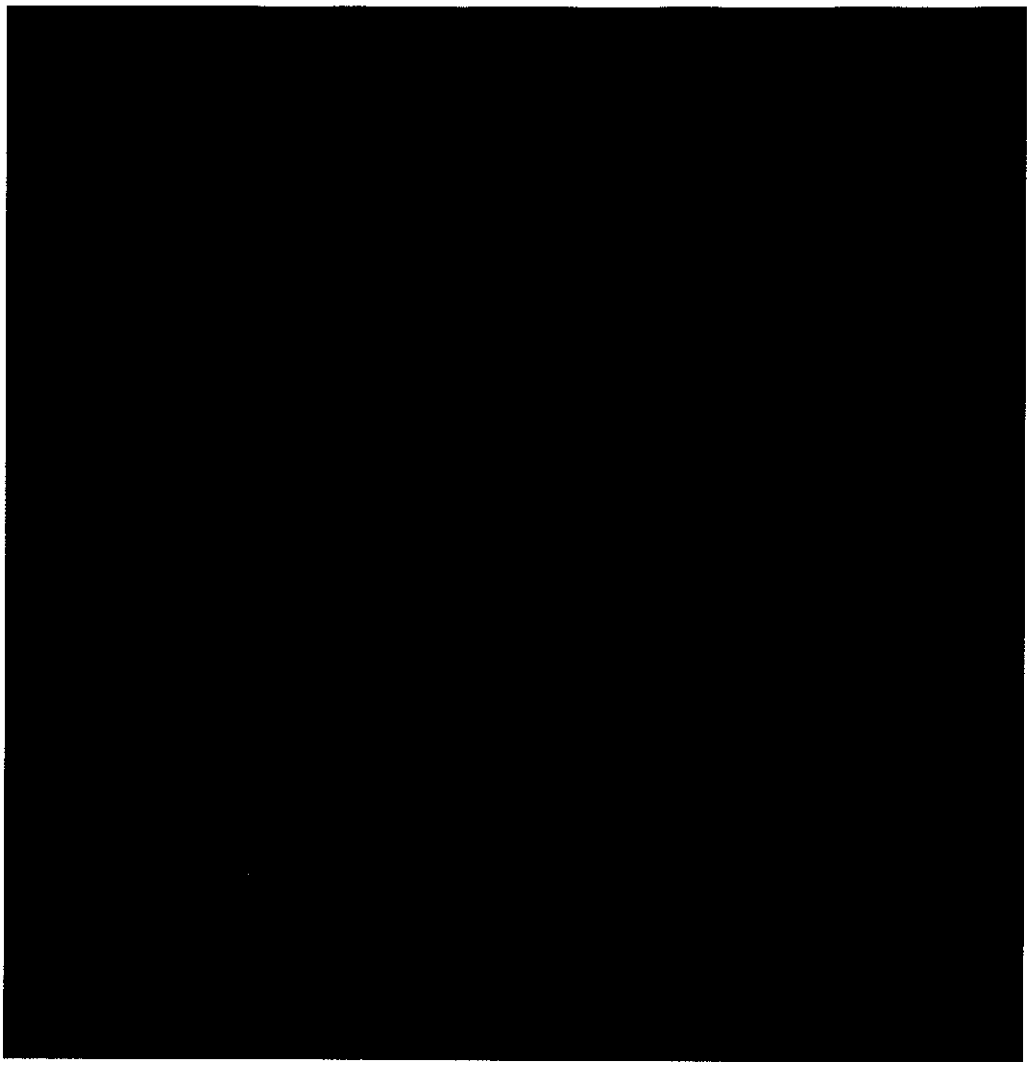
So, now, earlier today, you showed us -- you told us about the difference of a drive by cable and then the ETCS with contact type accelerator and then the ETCS with the drive by cable with the contact type accelerator pedal position sensor and throttle position sensor, and then the ETCS contact type accelerator pedal and non contact type throttle position sensor. I think you even had one of those earlier, right, to show us. And then the last one is ETCS-i non contact type accelerator pedal and throttle position sensor. Do you see they are all on the legend on the left side of Exhibit Number 20?

A. I see them now.

[redacted]







And, in fact, Harold Clyde has been at some inspections with you, right?

A. Harold Clyde has been at some inspections with me, yes.

Q. Was he with you at the Alberto inspection?

A. I have never inspected the Alberto vehicle.

Q. Did he inspect the Alberto car?

A. Yes, he did.

Q. So, if we go to Exhibit 20, there was a pedal and floor mat group of recalls earlier this year on some of these vehicles, right?

A. Yes, that's correct.

Q. And would you agree that those vehicles included the Corolla, 2009 Corolla, actually 2009/2010 Corolla, the 2008 to 2010 Highlanders, the 2009 and '10 Matrix, 2004 through 2009 Priuses, the 2008 to 2010 Sequoias -- actually, the 2010 Prius as well, the 2005 to 2010 Tacomas, 2007 to 2010 Tundras, 2009 to 2010 Venza, the 2007 to 2010 Camrys?

A. That is supposed to be which recall are you referring to?

Q. Combination either floor mat and/or pedal.

A. Okay. As a combination of those both recalls, that sounds correct.

Q. And at least those recalls did get the brake override reflash,

right?

A. I'm not certain that all those vehicles got the brake override reflash.

Q. Then if you look at Exhibit Number -- let's look at Exhibit Number 20. Recently, or actually two days ago, the 2005 through 2008 Corollas were recalled, right?

A. Yes, that's correct.

Q. And then also the 2005 and 2000 -- actually, the 2008 Matrixes were recalled, right?

A. Yes, that's correct. That's my belief. I haven't studied any documents related to the Corolla and Corolla Matrix recall.

Q. Now, would it be true, even looking at your Exhibit Number 1, that the Toyota Corolla vehicles that were recalled and the Matrix vehicles that were recalled just last week, neither of them had a combination of non contact Hall effect sensors at the TPS and the APPS, right?

A. Well, the Corolla and the Corolla Matrix, particularly the Corolla Matrix, has two different engines. One of those engines utilizes a mechanical throttle system. The other engine utilized Hall effect sensor at the throttle and a resistive sensor at the accelerator. That's what you had said.

Q. So I was right?

A. Yes.

Q. So, in other words, the Corolla and Matrix that had both the Hall effect sensors at the TPS and the APPS were not part of the recall?

A. That's a different generation Corolla and different generation Matrix.

Q. And those vehicles were part of the prior recall that received the brake override already, right?

A. I don't recall whether they were part of the recall that received the brake override or not. It's possible.

Q. Well, do you know whether the actual vehicles that were just

recalled were not part of the original recall for the floor mats and/or the pedals with the reflash?

A. I don't know what recalls, if any, that the vehicles that are now part of this recall for the Delphi control unit, whether they were part of any of those recalls.

Q. Have you attempted to analyze to see which vehicles were recalled by Toyota to include a change in the -- to add the brake override system?

MR. GALVIN: Hold on. That's way beyond what he's here to talk about. I told you he's not here to talk about BOS. Asking him whether he's tried to analyze it is way beyond --

MR. ROBINSON: I'll wait for your next guy. That's fine. I'll withdraw the question.

BY MR. ROBINSON:

Q. Okay.

Now, let's go to, I want to ask you some questions generally here.

You understand pretty much where parts -- strike that.

For example, let's suppose you wanted to get a part number at Toyota Motor Sales to analyze to see if there has been any other -- let's take a hypothetical.

Let's suppose you have a part that's damaged, let's say a throttle plate with some damage on it, and so you have a part number. At Toyota Motor Sales, if you wanted to go back and check to see, you know, how many of those parts were made and if there were other parts damaged with the same part number, how would you do that?

A. How would that be done at Toyota?

Q. Yes, Motor Sales.

A. Because that's not part of my job function.

MR. GALVIN: Just so you know, he's not here to talk about that. That's a warranty function, and that's a different witness.

BY MR. ROBINSON:

Q. Okay.

But just if you know, tell me what you would do if you wanted to know that.

A. Yeah. You would query the warranty system by that part number, and that would return what parts have been replaced under warranty with that particular part number.

MR. ROBINSON: So, Vince, you are telling me that somebody else is going to be produced on warranty?

MR. GALVIN: Yes. You have a category that talks about warranty.

MR. ROBINSON: That will be probably September 10th?

MR. GALVIN: No. I don't think it will be September 10th.

MR. ROBINSON: Okay.

BY MR. ROBINSON:

Q. In other words, there's a way for at least you working at Toyota

Motor Sales, or somebody that really understands the warranty system, to see what a part number is and determine how many of those parts had been damaged to see if there's more than one isolated problem, correct?

A. Well, there's a couple of parts to your question. One is, there's the ability to look up a part number based on the vehicle model, model year. There's a system to do that, a parts view system. The second is, you can look using warranty to see how many of those parts were replaced under warranty.

Q. Would you also be able to tell from some documentation at Toyota Motor Sales who the manufacturer of that part was?

A. It's possible that somebody in our parts department has the ability to know who the manufacturer was. In the general warranty system that I'm familiar with, it doesn't point out the manufacturer.

Q. But, I mean, isn't there

like an assembly number that maybe the assembly number might identify who the manufacturer of the part was?

A. In our parts system, the portions that I've seen, there is a code that could be assigned to a manufacturer. It always isn't assigned, and it just is associated with parts that are made in North America. So, if there's a part that comes from Japan, that coding, it just says it comes from TMC.

MR. ROBINSON: Is he going to discuss --

MR. GALVIN: Under category 7, it talks about warranty records. He's a customer complaint person. He can talk about claims and lawsuits, the documents, the process. Warranty is specialized. He's not the warranty person.

MR. ROBINSON: Okay. So, he's going to cover that.

(Indicating Mr. Slavik.)

How much time?

Let's go off the record then. I have 12 minutes. Maybe Brian will give me some time later. But I think at this point, I'm going to turn it over to you to go through number 7.

MR. PANISH: Let's take a five-minute break.

MR. ROBINSON: Let's take a break. Do you mind?

MR. GALVIN: That's fine.

THE VIDEOTAPE TECHNICIAN: The time is now 2:17 p.m., and we're off the record. This marks the end of Tape Number 3.

- - -

(Whereupon, a recess was taken from 2:17 p.m. until 2:29 p.m.)

- - -

THE VIDEOTAPE TECHNICIAN: The time is now 2:29 p.m., and we're back on the record. This marks the beginning of Tape Number 4.

BY MR. ROBINSON:

[redacted]